DOCUMENT RESUME

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IDENTIFIERS	*Workplace Literacy

ABSTRACT

The Schneider Skills Enhancement Program is a workplace literacy partnership between the medical manufacturing firm Schneider, Inc., and the Adult Academic Program of the Robbinsdale Area Schools in Minnesota. A literacy audit of 39 Schneider employees established a need for instruction in literacy, numeracy, and English as a Second Language (ESL) at the firm. In response to this need, work-related curricula and individualized instructional materials on the following topics were developed: ESL; mathematics; Traceability Control Form (TCF) training (TCFs are used to document production work and provide records of each product); International Standards Organization (ISO) audit training (ISO training was initiated to help Schneider gain certification to do business in the European community); and cultural diversity. The program gave Robbinsdale staff valuable insights about organizing instruction for business, helped Schneider improve its employee assessment and training procedures and examine the root causes of its inefficiency, and improved Schneider employees' literacy and numeracy skills. (This package includes an outside evaluation of the Skills Enhancement program, final performance report, and curriculum and other project materials. Among the curriculum/project materials, which comprise over three-fourths of the package, are the following: pre-assessment and marketing/evaluation materials, math curriculum/materials, language arts curriculum/materials, and dissemination materials.) (MN)

ED 365 778

Schneider Skills Enhancement Program

Final Performance Report

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1. Federal Agency and Organizational Element to Which Report is Submitted U.S. Dept. of Education	2. Federal Grant or Other Identifying Number Assigned By Federal Agency V198A10119	OMB Approval No. 0348-0039	Page 1 of pages

3. Recipient Organization (Name and complete address, including ZIP code)
SCHNEIDER (USA) Inc. 5905 Nathan Lane Plymouth, MN 55442

4. Employer Identification Number 41-1455 302	5. Recipient Account Number or Identifying Number 1411455302A1	6. Final Report ☒ Yes ☐ No	7. Basis ☒ Cash ☐ Accrual
8. Funding/Grant Period (See instructions) From: (Month, Day, Year) 5/1/91	To (Month, Day, Year) 10/31/92	9. Period Covered by this Report From: (Month, Day, Year) 5/1/91	To: (Month, Day, Year) 10/31/92

10. Transactions:	I Previously Reported	II This Period	III Cumulative
a. Total outlays	0	269,183.08	269,183.08
b. Refunds, rebates, etc.	0	0	0
c. Program income used in accordance with the deduction alternative	0	0	0
d. Net outlays (Line a, less the sum of lines b and c)	0	269,183.08	269,183.08
Recipient's share of net outlays, consisting of:			
e. Third party (in-kind) contributions	0	12,553.20	12,553.20
f. Other Federal awards authorized to be used to match this award	0	0	0
g. Program income used in accordance with the matching or cost sharing alternative	0	0	0
h. All other recipient outlays not shown on lines e, f or g	0	142,869.88	142,869.88
i. Total recipient share of net outlays (Sum of lines e, f, g and h)	0	155,423.08	155,423.08
j. Federal share of net outlays (line d less line i)	0	113,760.00	113,760.00
k. Total unliquidated obligations			0
l. Recipient's share of unliquidated obligations			0
m. Federal share of unliquidated obligations			0
n. Total federal share (sum of lines j and m)			113,760.00
o. Total federal funds authorized for this funding period			113,760.00
p. Unobligated balance of federal funds (Line o minus line n)			0
Program income, consisting of:			
q. Disbursed program income shown on lines c and/or g above			0
r. Disbursed program income using the addition alternative			0
s. Undisbursed program income			0
t. Total program income realized (Sum of lines q, r and s)			0

11. Indirect Expense
a. Type of Rate (Place "X" in appropriate box) ☐ Provisional ☐ Predetermined ☒ Final ☐ Fixed

b. Rate	c. Base	d. Total Amount	e. Federal Share
0	0	0	0

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.

13. Certification: **I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.**

Typed or Printed Name and Title
Pamela L. Streiff Grant Director & Technical Training Consultant

Telephone (Area code, number and extension)
(612)550-5548

Signature of Authorized Certifying Official
Pamela L. Streiff

Date Report Submitted
1/5/94

FINAL PERFORMANCE REPORT

The skills Schneider employees need for successful employment are different than those required when they were hired. This has resulted in a skills gap. According to Anthony Carnevale, President of the American Society for Training and Development (ASTD) today's complex new economy requires not only efficiency, as in the past, but also new standards of quality, variety, customization, convenience and timeliness in the workplace. All workers need skills previously demanded only of white-collar and "technical elites."

The skills requirement for success is, in fact, a moving target. In order to improve job performance, enable job retention, and potential promotions, Schneider needed an effective training program to teach workplace applicatons of basic skills within the context of Schneider job tasks. This ensured transfer of learning to job performance and reduced the amount of time needed for instruction. The Skills Enhancement Team strived to translate learning into measureable improvements in job performance that would impact the bottom line. This is not a nicety, it is a necessity. Businesses must reduce costs and improve productivity to be competitive. The Schneider Skills Enhancement Team is firm in our belief that as educators and business professionals working together, we have made a difference in the Schneider workplace.

Schneider is working to foster a Total Quality Environment. In order to make quality and productivity a reality in our workplace, we have worked to empower our employees. We believe that empowered Schneider employees can accomplish a productive and quality workplace by exhibiting the behaviors which support these ideals. Employees need new ways of thinking and acting to allow them to be more creative and flexible, and adapt to the organization's changing needs. But we have learned through the Skills Enhancement Program that empowerment alone is not enough. We have to provide Schneider employees with the awareness, knowledge, and skills that support self directed change. We have to build supporting "foundation" skills--communication, positive attitude, self awareness and acceptance, for example, which permit them to participate in an empowered environment. These critical success factors are competencies necessary for success.

The Skills Enhancement Program has worked to provide value-added services and products to Schneider and Schneider employees. The Skills Enhancement Team worked to provide personal attention to each detail of planning, implementation and follow-up. We supported employees and managers in identifying needs. We developed and provided customized training, while gaining management support and measuring results.

We worked to establish productive teams including members of human resources, management, engineering, production, inspection, and support departments from many levels and areas of the Company. The Skills Enhancement Team fostered working cooperatively with effective individuals to address group needs. In this way we demonstrated to employees, students, engineers, and managers, that their work and ideas were valued.

Our program helped maintain morale through increased employee self confidence and esteem despite the negative effects of the rightsizing last year (1991). When employees knew that their needs could be addressed without endangering their job security, they knew where they stood, they felt respected, and they performed better.

PROGRAM ABSTRACT

Schneider (USA) Inc. and the Adult Academic Program of the Robbinsdale Area Schools (ISD 281) developed a model workplace literacy program for the medical device industry that is replicable for other such companies. Schneider, a wholly owned subsidiary of Pfizer, is a medical device manufacturer located in Minneapolis, Minnesota. They develop and manufacture vascular catheters and other medical devices related to the diagnosis and treatment of disease, such as coronary artery disease.

In a cooperative effort, Schneider provided competency-based, job related workplace literacy training for over 240 adults, many of whom have limited English proficiency. Specifically, volunteer employees were sought, assessed and placed in an appropriate level of instruction. In order to 1) promote greater worker quality and productivity, 2) enhance potential for current job retention or 3) provide the possibility of career advancement, the instruction included development of required vocabulary, reading, writing, speaking, math, and listening skills. Content for the instruction was job specific and derived from Food & Drug Administration (FDA) requirements, and Good Manufacturing Practices (GMP) for medical device companies. Whenever possible, instruction was provided during regular work hours in order to alleviate any child care or transportation constraints. The project utilized a comprehensive and on-going evaluation plan to confirm its effectiveness.

In recognition of changing workplace skills requirements, Schneider (USA) Inc and the Adult Academic Program of the Robbinsdale Area Schools (AAP Robbinsdale) developed an effective program utilizing a "job functional" method of instruction. This project combined proven adult learning techniques with specific job related literacy requirements. To ensure skills taught correlate to the literacy requirements of the actual jobs, coordinators, instructors, and supervisors worked together to:

a. conduct a job task analysis through 1) interviews to identify specific tasks that are necessary for job proficiency, and 2) observations of the work environment to determine the various skills required to function competently.
b. devise an assessment tool modeled after needed workplace skills rooted in functional workplace situations
c. develop a curriculum consisting of specific math, vocabulary, reading, writing, speaking and listening skills necessary for successful performance of job tasks
d. incorporate work related documents into instructional materials
e. utilize measurable objectives to assess effectiveness.

A major objective of this program was to identify the skills that are lacking, thereby creating barriers in terms of job success, productivity, or advancement for employees. Once identified, those individuals with limited proficiency in such skills were targeted for participation in the project.

Training normally took place on-site during normal work hours in order to alleviate any transportation or child care constraints. When training was offered outside of normal work hours employees who completed the training received an $80 stipend to alleviate transportation or childcare constraints. In addition, individualized counseling and coaching services were available for participants.

Each member of the partnership worked to establish and review project goals. This fostered a strong commitment by each as well as a drive to see mutually beneficial rewards.
A new perspective of business and education was gained by the partners due to the partnering component of this project.

The partners performed a literacy audit, in which competent employees were interviewed and observed. Samples of workplace materials utilized were collected, and needed basic skills assessed. An assessment tool was developed which identified skill capabilities in the areas where skills supported job effectiveness. Curriculum was developed, and recruitment conducted. Intake assessments and interviews lead to the cooperative development of Individualized Personal Education Plans. Each PEP was tailored to individual or group needs with respect to job proficiency requirements, and included a means of assessing progress and skill mastery.

The program utilized curriculum materials derived from documents, reports, forms, memos, job postings, and charts which participants see and use regularly. This material was developed specifically to target the needs of individuals or groups of participants as identified in the Personalized Education Plans, thereby maximizing the benefits of learners' prior job knowledge and increasing the job knowledge base for future use.

Participants, instructors, supervisors, managers and the project administrator worked cooperatively to assess needs, layout instructional levels, and plan, revise, and implement the program, bearing in mind their common goals and objectives. Participants' progress was monitored and PEPs adjusted as required to accommodate shifting needs. Instruction used was personalized and presented in a non-threatening manner. Individual evaluation results were shared with Company staff in a generalized format, respecting participant confidentiality. Instruction took place in two dedicated training rooms on-site.

This project encompassed basic literacy skills as they relate to specific job requirements as well as general literacy skills that will enable participants to increase productivity in the medical device industry or enhance their career advancement. The project demonstrates that in spite of structural and attitudinal barriers a collaborative effort between industry and education can produce a successful workplace literacy training program. The partners have initiated establishment of a computer-assisted, teacher directed Training & Education Center to ensure ongoing employee development in workplace literacy skills.

BULLETED SUMMARY: ACCOMPLISHMENTS OF THE PROGRAM

Formed partnership
Conducted task-analysis
Analyzed workplace task-related materials
Designed functional context assessment
Designed functional context curriculum --instruction materials linked to real workplace goals and job performance requirements
Conducted ongoing needs analysis of workplace literacy training needs
Provided instruction
Conducted recruitment and ongoing marketing
    involved students in planning the program
Took steps to reduce barriers during the program:
        Development Counselor position
        Provided some training on-work hours
        Maintained confidentiality
            assessment thru non-employee of Company
            information protection
        Provided student stipend for off-work hours ESL training
Conducted formative and summative evaluation

RE: Areas of Slippage

The program did not finalize and implement a Review Board of outside persons to give feedback to the program. This decision was reached by the Program Director and Personnel Vice President (her direct supervisor), and confirmed to by the Company President because of issues related to the Company's business need to downsize its workforce during the program. Confidentaility became particularly important; the Company was not comfortable sharing information during this time. Program evaluation became more internal-client focused. Note that the downsizing lead to one-half of the production workforce volunteering to accept a generous benefits/compensation package and terminate their employment. Several program participants went (back) to school prior to seeking re-employment. Despite the loss of some employees who had volunteered to participate in the program, program staff was able to interest other employees in joining the program.

PROGRAM GOALS/OBJECTIVES REVIEW

Goal 1) Organize a model workplace literacy program, through an exemplary partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, an LEA from the State of Minnesota.

Completed Supporting Objectives:

1.1 Confirm P. Streiff (Altrowitz) as Program Manager.
1.2 Finalize contract with Robbinsdale Area Schools.
1.3 Confirm Mary B. Negri as Program Administrator.
1.4 Select teaching staff.
1.5 Orient the teaching staff to proposed program.
1.6 Arrange instructional environment.
1.7 Develop a communication plan for creating employee involvement and ownership.
1.8 Establish the liaison role of the Teacher/Counselor.
1.9 Plan the recruitment and intake processes to ensure equal access without regard to color, gender, age, national origin, or handicapping condition.
1.10 Confirm the evaluation specialist and complete contract.
1.11 Plan the program evaluation.
1.12 Plan to share what has been learned during the program period (Dissemination)
    1.12.1 Article to: International Association for Quality and Participation
    1.12.2 Presentations to:
        a) International Association for Quality and Participation by Pam Altrowitz, Program Director and Fran Vavrus, Teacher
        b) The Metropolitan ABE Teachers
        c) Minnesota Association of Continuing Adult Educators
        d) St. Louis Park MN Community TV
        e) Pfizer Hospital Products group education specialists by Pam Altrowitz, Program Director
        f) Workplace Literacy Grant Directors, Educators, Business, or Labor persons, by Pam Altrowitz, Program Director and Mary Gallagher, Development Counselor
        g) Workplace Literacy Conference at St. Thomas University, by Pam Altrowitz, Program Director and Mary Gallagher, Development Counselor

GOAL 2) Conduct a literacy audit to determine what communication skills--reading, writing, speaking and listening--are needed by manufacturing employees at Schneider.

Completed Supporting Objectives:

2.1 Finalize method to be used during observation.
  2.1.1 Describe the activity and the frequency
  2.1.2 Note the conditions at the time of the observation
  2.1.3 Record specific workplace materials used
  2.1.4 Determine purpose of the communication and its import to the product
2.2 Conduct observation of work in progress with a stratified sample of competent production workers
2.3 Collect samples of formal and informal communications.
  2.3.1 Determine type, level, and importance of literacy skills required
  2.3.2 Analyze the content for purpose and significance
  2.3.3 Identify and categorize technical terminology
2.4 Interview the observed employees and their supervisors.
2.5 Categorize the literacy skills identified in the audit as three levels of literacy skill development required for competent performance in Schneider positions.
2.6 Confirm the validity of the skills categorization.
  2.6.1 Revisit the production areas, more observation
  2.6.2 Review the descriptions with non-participating employees & supervisors to determine applicability of skill categorization to other positions
  2.6.3 Make adaptations and changes based on additional knowledge gained through the review process
2.7 Develop an assessment tool to evaluate individuals' mastery of Schneider workplace leteracy skills.
  2.7.1 Use job related language and syntax
  2.7.2 Use situations and formats in which the skills tested will be applied
  2.7.3 Use workplace simulations as appropriate
  2.7.4 Use the identified Schneider literacy skills which impact productivity, product quality, product cost, and employee readiness for advancement.

Goal 3) Facilitate employee interest and involvement in program.

Completed Supporting Objectives:

3.1 Disseminate information gained from the literacy audit broadly to employees.
3.2 Present orientation on the Program to employee groups.
3.3 Implement educational/vocational counseling to project volunteers.
  3.3.1 Facilitate intake and pre-assessment, using Schneider literacy assessment
  3.3.2 Assist enrolled participants in assessing vocational skills and aptitudes
  3.3.3 Complete an exit interview and post-assessment, using Schneider literacy assessment tool
3.4 Develop Personal Education Plan (PEP) for each participant or group
  3.4.1 Establish measurable short and long range goals
  3.4.2 Identify the benchmarks to evaluate progress toward goal achievement
  3.4.3 Ensure periodic review of PEP, establishing a calendar

GOAL 4) Provide individualized instruction to employees who have inadequate basic skills and based on personal judgement

a) are unable to perform their job effectively, b) are ineligible for career advancement due to an identified lack of basic skills, or

c) are unable to retain employment due to Schneider's increasing technology and the demands this places on medical manufacturing employees.

Completed Supporting Objectives:

4.1 Facilitate employee participation
  4.1.1 Enroll 75-100 volunteer participants over a period of 18 months
  4.1.2 Provide open entry, open exit, on site educational programming
  4.1.3 Provide each participant up to 4 hours training per week during regular work hours
4.2 Develop curriculum
  4.2.1 Establish Schneider workplace literacy curriculum
  4.2.2 Select Schneider job or job related materials for skill development
  4.2.3 Facilitate attainment of transferrable skills
  4.2.4 Include skills which would permit employees to be successful in post secondary training
4.3 Employ an interactive instructional approach
  4.3.1 Utilize adult learning principles, stressing current and previous experiences and job knowledge, encouraging employees to attach new skills to old.
  4.3.2 Base instruction on PEP's
  4.3.3 Establish an informal, collegial instruction environment
  4.3.4 Model behavior and identify thought processes used to perform tasks.
  4.3.5 Cluster participants in groups accommodating PEP's
  4.3.6 Utilize volunteer trainers from the employee group

Goal 5) Evaluate project for benefits to the individuals served and to the organization.

Completed Supporting Objectives:

5.1 Provide for ongoing evaluation.
5.2 Identify program strengths and weaknesses.
5.3 Establish and process a control group comparison--**this was NOT accomplished**
1) due to workplace restructuring which took place in summer of 1991 and
2) the program ended up affecting everyone in one or more of its classes-- ie we decided not to withhold training from anyone.
5.4 Conduct focus groups of participants& advising employees
5.5 Identify job behaviors which improved during the program period.
  5.5.1 Group statistics: productivity, quality, safety, attendance, documentation errors, scrap costs.
  5.5.2 Job advancement statistics **--NOT accomplished**
  1) due to new comp. system making it difficult to evaluate

2) due to reluctance to provide potential ammunition for employee relations issues

5.5.3 Job performance--productivity, safety, quality, attendance, documentation errors, degree of involvement, asking questions, use of benefits

5.6 Analyze data collected

5.7 Solicit feedback from literacy, business and educational provider organizations in the State of Minnesota, as well as other Hospital Products group education specialists.

This project was an exemplary partnership between a medical device manufacturer and an LEA from the state of Minnesota. This partnership provided a model competency-based, job related basic skills training program which resulted in workers that are better equipped to retain and successfully perform their jobs or to accept the challenge of increasing responsibility. This partnership provided a win-win situation. Employees benefited personally and in the workplace from the acquisition of basic literacy skills. Robbinsdale (LEA) benefited from the ability to see and meet the basic literacy needs of adults in industry. Schneider benefited from having more retainable, skilled, productive, promotable, and more satisfied employees. The Skills Enhancement Team convinced the Company that it would be necessary to make workplace reading materials more reader-friendly. Other industries could benefit from this model program's methods of instructional development. Recognizing the numerous benefits, the partnership continues to strive for optimum results which should become more apparent over time.

RE: BUDGET AND COST EFFECTIVENESS

The funds requested combined with the in-kind contributions provided by Schneider and the low charge for instruction enabled attainment of the goals and objectives of the proposed project. The project was partially funded by a grant of $113,720. Schneider provided the remaining monies as in-kind contributions (over 70% of total project cost) which included employee wages during training, equipment, utilities, training facilities, supplies, and some curriculum development/teacher wage expenses. Students volunteered some of their own time. Together with Schneider, a community agency (HIRED) funded the initiation of English as a Second Language classes which started before the grant period. The project budget was developed with a primary objective a quality project with efficient utilization of federal funds. Equipment and supply purchases were minimal with the majority of federal grant funds (82.7 %) being devoted to instruction-related costs. The emphasis of this project was the development of basic workplace literacy skills which the allocation of grant funds clearly demonstrates.

Communication Note: The partnership initially held bi-weekly staff meetings. This briefer meeting rapidly turned into a monthly update for less involved team members (M. Negri, teacher's supervisor, and W. Malinsky, Director's supervisor) and selected Company management. Instead, onsite team members held daily or weekly working sessions, and frequently included management or students in their planning and curriculum development work.

ROLES The roles of each partner were as follows:

Program Manager: Pam Streiff
Pam provided overall project coordination, linking the managers, supervisors, outside providers and employees. She managed program design and development, developed program objectives, provided orientation to Robbinsdale staff, developed and monitored the program budget, developed project standards, policies, and procedures, coordinated and evaluated Robbinsdale's involvement, exchanging information with Schneider management, established a positive work climate, identified and developed solutions to project problems, acted as primary communication coordinator (internal and external), maintained project record-keeping function, helped develop and provide feedback on program evaluation, and disseminated information learned to businesses and educational providers.

Program Administrator: Mary Negri
Mary facilitated staff resources necessary to provide instructional services. She had administrative responsibility for implementation of the workplace literacy program. Responsibilities included: oversee and evaluate Robbinsdale staff performance (instructional techniques, objective attainment, and adult learner methods), secure teacher attendance records, coordinate staff, support materials development, ensure course material is prepared and available, establish contingency plans for backups and emergencies, and ensure program follow-up is accomplished.

Teacher/Development Counselor: Martha Homme and Mary Gallagher
The counselors primarily conducted intake assessments, provided vocational counseling, and facilitated employee personal educational planning and goal development. Counselors worked with instructors, peer trainers, and employees to maximize the effectiveness of instruction. Responsibilities included: assist in literacy audit, assist in materials development, counsel employees with problems or special needs within the scope of program objectives (referring employees to free confidential Employee Assistance as appropriate), and functioning as liaison between instructors and supervisors.

Teachers/Instructors: Irene Kaplan, Darlene Hetland, Nancy Palmer, Rose Lawson, Carolyn Carpenter, Judy Bertelson, Fran Vavrus, and Lucinda McCormack
Teachers provided job related workplace literacy training, presenting instruction consistent with adult learning principles and learning psychology. Responsibilities included: evaluate Schneider employee workplace literacy requirements, assist in the development of skill levels, assist in the development of assessment tool, develop job-specific and work related curriculum and instructional materials, coordinate the development of Personal Education Plans with each employee, instruct employees using appropriate materials, model workplace skills, monitor learner progress, support learner development efforts, recommend additional counseling services when appropriate, administer tests, keep records of attendance and progress, assist and cooperate with other program personnel, create and maintain a positive program image, and communicate concerns and problems to program administrator.

Evaluation Specialist: Stacey Stockdill.
The Evaluation Specialist conducted a comprehensive evaluation of project success. Responsibilities included: develop evaluation plan, coordinate any evaluation activities with the Department of Education, determine data to be collected, establish collection methods, assure record confidentiality, organize and conduct data analysis, conduct focus groups of participants and non-participating employees, and recommend program improvements.

Through the cooperative effort of Schneider and the Adult Academic Program of the Robbinsdale Area Schools (an LEA from the state of Minnesota) an effective workplace literacy training project was implemented. Employing workplace materials and successful adult learning techniques, adult workers benefited from the functional training that enabled them to better perform their jobs. Objectives for the project promoted program effectiveness.

EVALUATION:

The methods of evaluation in a project of this nature are numerous. It is admittedly difficult at best to justify workplace literacy training while there are so many other factors affecting the "bottom-line" outcomes. During this program, the involvement of those individuals who could most readily identify performance issues made it easier to show outcomes linked to training. Evaluation was difficult at times due to the short length of the program period.

While the curriculum was designed following a performance based, functional-context instructional program, trainee mastery of tasks that have been determined to be essential for successful job performance constituted success, as did significant progress toward or attainment of the objectives established in the PEP. Progress was measured against baseline data gathered from individual pre-diagnostic evaluations and available performance data. Data was gathered to determine pre and post-training abilities; information was gathered through questionnaires, interviews and both formal and informal discussions between participants, instructors, staff, and management. Instructor performance was audited to ensure effectiveness, participant progress was be monitored, PEPs revised as appropriate, and formative evaluations checked for progress against objectives. Summative evaluations were utilized to confirm individual and program success. An outside consultant performed an assessment of overall project success, looking for benefits to the individuals served, the organization, and the medical manufacturing industry.

Project success was also evaluated by program staff, participants and management:
Outcomes include:

- reported in assessment instruments and informal interviews: improved employee morale, greater job satisfaction, intent to stay with the company (workforce stability), more self-confidence & self-esteem, higher degree of motivation
- turnover was significantly reduced in target groups following completion of the project--Note that it could be an effect of the rightsizing.
- improved attendance of ESL participants was noted
- increased job satisfaction was reported
- improved human resource utilization (employees contributing ideas in interactive workgroup setting)--this has started happening, but it is too soon to evaluate effectively as arising from the program.
- improved communication was reported by participants and their supervisors
- improved understanding between business & educators of their respective needs and roles.
- "locked in" employee (limited to a few tasks) crosstraining/promotions
- more mixing in informal settings (lunchroom)
- improved communications
- fewer employee errors
- increased productivity

The most significant outcome of this project is improved workplace literacy for many Schneider employees.

Anticipated results not measured or confirmed as yet

- participants better able to achieve further educational opportunities --anticipate evidence by an increased use of company educational reimbursement policy in the future, time is too short to show results as yet
- reduced safety violations or injuries -- were not noted
- reduced training time in new positions--this was anticipated but not cost effective to measure

OUTCOMES
INSTRUCTIONAL PROGRAMS AND CURRICULUM DEVELOPMENT

KEY to FORMAT:
Title
Description
Number of employees served   Number of instructional hours
Outcomes and assessment data

ESL Summer 1992

These courses attempted to place employees into groups with other employees having similar needs as identified by the Assessment tool created after our task analysis. The instruction focused on work vocabulary, grammar, speaking skills, asking questions, being willing to say "I do not understand", and reading their manufacturing processes.

Number of employees served 42   Number of instructional hours 1,008.0 hrs

Outcomes

> Students in this class participated in helping to identify critical on-the-job skills and skill applications used to develop their assessment tool. So no comparable pre- to post-assessment data is available for this class.
>
> Final class project was writing a personal letter to the program coordinator. An analysis of these letters indicates mastery of specific writing and vocabulary skills.

One on One Tutoring

In these sessions employees who were not able to participate in the group classes due to job responsibilites (ie setup operators, group leaders) or those who had unique needs were provided with individualized training. This was an outreach to reduce barriers to participation, since they could not leave their production line.

Number of employees served 6   Number of instructional hours 80

Outcomes

> Students in this class helped to develop the pre-post assessment tool used in later sessions. So no comparable pre- to post-assessment data is available for this class.
>
> Students identified specific skill improvements in the areas of: comprehension, oral communication, and writing.
>
> Because of training, one of the students who received individualized instruction was able to retain her employment. Her supervisor had been determined to take disciplinary action up to and including termination.
>
> One of the students was working two full time jobs at start of the program. When forced to decide between the Companies, she selected to remain at Schneider. One reason that may have affected her decision was the Company's efforts to provide training even though she could not be available at the regular class time--she received individual instruction during work hours.
>
> One of the students had special needs because she came from Poland rather than a Southeast Asian country. She especially appreciated being able to work on her unique prounउnciation issues. Her supervisor indicated that the one on one tutoring had a positive impact on her job performance.

Math at Work Curriculum Development

In these sessions instructors worked with employees to examine how math was and needed to be used on the job to ensure success. The aim was to support skills development and identify materials and workplace applications of specific math skills at Schneider.

Number of employees served 17 Number of instructional hours 178.5
Outcomes
Pre-assessment Range 4-88% Average Score 54.5%
Post-assessment Range 12-88% Average Score 67.8%
% Change Pre to Post 13.3%

The materials developed by the instructors were subsequently used by quality engineers to support personalized and group training of operators and inspectors. Their initial product review showed 50% of the parts in the scrap barrel due to this defect were actually good parts. They trained employees who were figuring area incorrectly, and had been rejecting/scrapping good product. The math skills training supported a significant reduction in the rejection of good product (at $100 each unit) and thus saved money for the Company.

Reading Process Sheets (ESL)

We focused our ESL training on the area of greatest concern--peoples' ability to read and interpret their job's written work processes. This included the study of vocabulary and terms commonly used on the job.

Number of employees served 14 Number of instructional hours 210.0
Outcomes
Pre-assessment Average Score 9
Post-assessment Average Score 15
Average Change 6

This course helped employees be able to read their own processes and those of the other students. This made them better able to perform their current job, and able to cross train more readily due to familiarity with the vocabulary and written documents of other processes.

Math Skills Training

Two math teachers worked with engineers, Quality supervisors, and quality inspectors to develop eyepiece training in which employees learned how to measure and figure area. This also precipitated the development of two levels of decimal skills training modules.

Number of employees served 20 Number of instructional hours 56
Outcomes

> No assessment data was available because this was a course development/assessment preparation group. Information gathered assisted staff in selecting an instrument to assess general and specific math skills needed on the job at Schneider. This ultimately lead to employees being enrolled in courseware to support those specific skills in which they needed a refresher, and those in which they were unskilled.

TCF Training

Schneider's workforce records alot of its work on a document called the Traceability Control Form. The management team identified errors being made on the TCF as the most critical issue on the production floor in December of 1991. It was decided that a partnership team between Skills Enhancement, management, and representative employees would determine what factors were causing these errors, and design and deliver training.

Number of employees served 230 Number of instructional hours 720

Pre- and Post-assessment NOTE Specific data is presented in the evaluation report.

Outcomes

Pre and post assessment data for ESL students who were involved in the TCF Training indicate an increase in skills.

Pre and post assesmesnt data for 16 students who were involved in TCF Training and other basic skills enhancement training indicated an increase in skill level.

Mastery data collected for every student involved in the TCF Training indicated a significant reduction in the number of errors made in documentation.

Company data indicate that a significant reduction of on the job TCF violations occurred after training was provided which was maintained for over 6 months.

Management reported a significant increase in awareness of the importance of correct documentation, evidenced by employees asking questions when they were uncertain of the correct procedure, and employees finding each other's mistakes.

Understanding Diversity I (Awareness) & Understanding Diversity II (Application)

The SETeam decided that training which facilitated understanding of diversity would foster enhanced communication, a key skills area. Issues identified in the needs assessment included:

* Messages are interpreted differently by workers of different gander, racial, and cultural backgrounds
* Employees who do not fit the "norm" are misunderstood and underutilized
* Differences are impeding rather than enhancing productivity
* Employee dissatisfaction with diversity issues are negatively impacting overall morale

The purpose of the diversity training was to develop, coordinate, and disseminate diversity knowledge and skills which enhance effective utilization of Schneider's employee resources, helping employees to learn how to anticipate and minimize barriers and value diversity.

> RE: Justifying Diversity Training
>
> Schneider has an increasingly diverse workforce. Our diversity is an component part of our business mission statement. We came to recognize that you cannot have Total Quality without managing diversity. By acknowledging and valuing diversity effectively Schneider would tap into more of the workforce. Diversity awareness training creates better internal customer service thru enhanced communication. Other anticipated benefits include--enhanced communication; improved competitive advantage through better problem-solving; improved morale; a more effective, enthusiastic workforce; increased overall productivity, quality, and creativity; and increased quality control--all of which add up to significant, bottom-line results. Diversity training is an investment which pays for itself in a stronger workforce, a better product, and a healthier bottom line.

Number of employees served 28 Number of instructional hours 224.0

Outcomes

These were two pilot training sessions. Initial participant comments after the first session strongly indicated that this training was a business necessity and valuable for a broad audience. Participants reported an enhanced awareness and understanding of diversity issues. Participants urged facilitators to develop a second program focusing on skills practice and application on the job. The Company also decided to implement other training related to effective communication, particularly for management. Feedback from the second session indicated that the two sessions both held valuable outcomes, and instructors were encouraged to consolidate the sessions into one program. Participants particularly enjoyed discussion of case studies in which they determined how to handle situations effectively.

International Standards Organization (ISO) Audit Training

The Skills Enhancment Team was invited to join Schneider's steering committee on ISO, a critical business issue affecting the Company's ability to get certified and sell its products in the European community. Two key issues were ensuring that employees understood the purpose and importance of the audit, and making certain that employees (native and non-native speakers) could successfully respond to oral questions. The teachers were instrumental in planning, customizing and conducting training sessions. The training involved modeling and practicing answering questions in the expected topic areas.

Number of employees served 200 Number of instructional hours 200

Outcomes:

Pre-assessment--in class participation evaluation of model audit

Post-assessment--in class practice, review plaquards at lunch tables

The pre-audit had good results. The auditor at the pre-audit did not speak directly with many employees. As it turned out, this really discouraged alot of production people! They had become excited about the audit rather than dreading it. After the actual audit, Schneider was recommended for ISO Certification. NOTE: Aproximately 60% of companies do not pass their first audit. Schneider did.

FINANCIAL DATA

MATCHING FUNDS

Schneider monies

Washington Travel	- 17 + 756.36 + 566.00 =	1,305.36
Dissemination Travel	678.09 + 1556.60 - 500.00 - 600.00 =	1,134.69
Robbinsdale	658.99 + 293.75 +9760.10 + 411.94 + 440.98 =	11,565.76
Materials (books,software, office supplies)	40.00 + 27.60 + 80.30 + 1510.00 + 200.00 + 480.37 + 28.66 + 597.84 + 17.95 + 90.69 + 2.04 + 52.53 + 29.28 + 35.08 + 74.00 + 65.00 + 366.25 =	3,697.59
Mileage	45.36 + 65.87 =	111.23
Team recognition		46.50
Wages for training/education during work hours		79,800.00
Wages for Schneider management involvement/directing program		39,960.00
Class Mat. Copying	25 pgs x 589 participants	736.25
Dissemination Copying	450 copies x 45pgs X .05 =	1,012.50
Provided Teachers' office, computer, printer		3,500.00
		142,869.88
HIRED paid Robbinsdale for ESL Teacher time		1003.20
STUDENT DONATED TIME		11,550.00
TOTAL VALUE OF MATCHING MONIES		155,423.08

GRANT (DEPT. OF ED) BUDGET

ORIGINAL BUDGET	CATEGORY	ACTUAL
2,500.00	Evaluation clerk support	0 .00
2,882.00	Travel Washington D.C.	2,632.00
1,100.00	Travel Dissemination	1,100.00
1,000.00	Dissemination materials	0.00
1,313.00	Pre-post assessment materials	0.00
99,965.00	Robbinsdale	94,079.00
5,000.00	Evaluation (EnSearch/Stockdill)	5,000.00
0.00	Other (up to 10% moveable)	10,949.00
113,760.00	Total Grant dollars	113,760.00

GRANT (DEPT. OF ED) BUDGET

DATE	PURPOSE	SUBTOTAL	TOTAL ORDERED	REMAINING
1/1/92	(Govt. check system)		1.00	113,759.00
1/9/92			25,900.00	87,859.00
	Robbinsdale 49279/49906 5/1 & after	1,025.00		
	49978	9,207.00		
	51011	13,731.08		
	Evaluation (8/27/91)	1,937.50		
1/24/92	Robbinsdale 52323	15,764.00	15,764.00	72,095.00
5/1/92			15,133.00	56,962.00
	Robbinsdale 53121	9,792.00		
	Computer order cost (other)	5,341.00		
7/1/92			24,180.00	32,782.00
	Robbinsdale 53918	23,156.28		
	BaFa BaFa (other)	364.54		
	Wash Travel EXP 7/27/91	659.18		
7/27/92			981.00	31,801.00
	Computer tax freight (other)	481.00		
	Dissemination Travel EXP 4/11/92	500.00		
10/27/92	Washington Travel EXP 919		1,956.00	29,845.00
10/30/92			29,845.00	0.00
	Washington Travel EXP 7/27/91	16.87		
	Evaluation (EnSearch)	3,062.00		
	Robbinsdale	21,404.00		
	Dissemination Travel EXP 4/11/92	600.00		
	Lab Software (other)	4,762.00		

INDEX OF CURRICULUM AND RELATED MATERIALS

SAMPLES OF PRE-ASSESSMENT & MARKETING/EVALUATION MATERIALS

Job Task Analysis (Literacy Audit) Project Structure

Skills Enhancement Program Questionnaire
(used to gather info on Management thoughts before Partnership *(Marketing)* Meeting)

Skills Enhancement Partnership Meeting: Agenda

Customized Assessment:

- Overview Sheets: Language Arts & Math
- The Assessment Tool
- Individual Language Arts Assessment Score Sheet
- Language Arts Group Summary Sheet
- Math Group Summary Sheet

Personal Education Plan (PEP)

- Blank Sample
- Completed Sample

ESL Class Evaluation Results Memo

Post Program Evaluation Luncheon Memo

SAMPLES OF MATH CURRICULUM/MATERIALS

Sample Interviews & Curriculum Development Input Team Meeting Minutes

Math Pre-Assessment Scores

Consulting Request Form - Ideas for Eyepiece Training

Basic Math Skills Used on the Job - Sample Input Form

INDEX OF CURRICULUM AND RELATED MATERIALS (cont.)

SAMPLES OF MATH CURRICULUM/MATERIALS (cont.)

Eyepiece Training Unit

Training Suggestions Sheet for Group Leaders doing eyepiece training

Decimals Unit I

Decimals Unit II

Decimals Units Employee Input/Evaluation Form

Pilot Decimal Units Small Group Evaluation

Math At Work Team Closure Report

SAMPLES OF LANGUAGE ARTS CURRICULUM & MATERIALS

Skills Enhancement Marketing Brochure

Summer 91 English As A Second Language Lesson Plan, Reports, and Associated Materials

Workplace Reading Processes: Lessons & Materials

Diversity II : Awareness to Application - Facilitator's Guide

ISO Thankyou Note from Schneider ISO Committee Member

District 281 Thank you/Conclusion Letter

SAMPLES OF DISSEMINATION MATERIALS

Skills Enhancement: Empowering Everyone to Support the Quality Process

- Article published by the Association for Quality & Participation
- Handouts from presentation (includes reduced overheads on the side)

The Schneider Skills Enhancement Program

JOB TASK ANALYSIS PROJECT STRUCTURE

The Schneider Employee Development department and the Robbinsdale Adult Academic Program are working in partnership to develop a Skills Enhancement program at Schneider. A job task analysis is the next step in curriculum development. Observation of employees on the job will help identify skills needed to function effectively. Your cooperation and assistance can help ensure the success of this project. The information gathered will support the development of training objectives and materials.

The information gathering process will have several stages. Each improves knowledge about job skills required for successful employee job performance.

First, competent employees will be observed. During this time, note will be made of what functions (such as scanning a document, asking questions, listening) employees must use to do their job. The observers will ask questions to find out what is happening that they may not be able to see. The observers will make notes and write down process numbers. They will gather copies of visual materials used on the job, such as tally sheets, scrap report forms, etc. This help will permit the Schneider Employee Development staff and Robbinsdale teachers to develop appropriate curriculum and training materials for training activities.

Second, competent employees will be interviewed off line. Specially prepared questions will be asked. This is still part of the information gathering phase. Employees should be encouraged to view themselves as job experts who are sharing what they know with the teachers. They need not be nervous; they are not being evaluated. Schneider appreciates any employee assistance provided to support this project.

Third, supervisors will be interviewed. Again, prepared questions will be asked. Verification that no critical step was missed and confirmation of observations are the desired result.

Fourth, the information gathered will be compiled. The results will be shared and confirmed through a presentation/input gathering meeting with supervisors and managers.

Finally, Employee development programs and materials will be developed and improved through analysis and application of what is learned. One part of the Skills Enhancement program is English as a Second Language class.

Schneider is working in partnership with Robbinsdale Schools to combine expertise. Through our partnership we plan to enhance the skills employees apply on the job. As manufacturing processes evolve the skills required for success will become more complex. Our employees must grow with Schneider. We hope to accomplish this more effectively through our Skills Enhancement training program.

FALL OF 1991

SKILLS ENHANCEMENT PROGRAM QUESTIONNAIRE SUMMARY

This questionnaire addresses some options for how we could conduct the Skills Enhancement Program for the future. Your input will be used to initiate dialogue, clarify needs and expectations, and to help us determine how best to set-up and administer the Program to support Schneider's continued growth and development.

Please let us know what your opinion is on each of the following options by rating them according to the 1-5 scale below. In addition, please write brief comments, suggestions, or solutions next to each option or topic in the right column.

I agree...

1	2	3	4	5
not at all	a little	moderately	a lot	completely

OPTION	RATING					COMMENT, SUGGESTION, OR SOLUTION
Schedule classes the last hour and a half of the day.	1	2	3	4	5	Improved communication skills will benefit employee (performance evaluations, promotibility, etc.) Should be willing to attend on own time. (17)
	4	1	3	4	3	
Schedule classes over the lunch hour.	1	2	3	4	5	People need to relax at lunch. (1)
	13	0	1	0	0	
Offer classes on regular paid work hours.	1	2	3	4	5	This negatively affects productivity from a financial standpoint. The ESL and Math improves the employee's personal life and should be on their time.(1)
	7	2	0	5	0	
Offer classes off work hours, and unpaid.	1	2	3	4	5	This is a voluntary class to provide people a chance to improve their English and Math skills at no cost to them. It should not be done on production time.(15)
	5	2	0	2	5	
Offer classes half on, half off paid work time.	1	2	3	4	5	
	7	0	2	2	2	
Adjust staffing levels to support employee release on work time.	1	2	3	4	5	
	7	2	2	3	0	

DESCRIBE WHAT YOU THINK THE PROGRAM IS EXPECTED TO ACCOMPLISH. DOES IT DO THAT?

2. Elevate employees base skills to a level where they can carry out normal every-day responsibilities. Unknown?!

3. Raise skill level at work. NO! The people are not using any of their time. After class everyone goes right back to their own way of speech.

4. To increase people's work skills to help them in their job. Yes.

5. Teach those who cannot read and understand process, work instruction, policies, how to do so. It is not accomplishing the above.

6. It was supposed to help the people speak and understand English better so they could communicate better in English on the job and read and understand the processes easier. NO! They do not practice English on the job and get very upset when you ask them to speak English.

8. To improve verbal and written skills.

10. Haven't been involved, so do not know what the program is even about.

11. Help people to communicate better.

12. I think the program is set up to train any of the operators whose reading, writing and math skills are below the requirements to perform their job here at Schneider.

13. Improve basic Math and Language skills. Unable to assertain.

14. Improve English and Math skills essential to work requirements.

15. It should give the person a working knowledge of English and Math. It should give them enough knowlege to fill out a TCF and read a process.

16. Improve the skills (basic) of those whom are lacking so they can move forward to more specialized course work successfully.

17. Improve communication skills. Have noticed slight improvement.

Two did not respond.

WHAT DO YOU THINK THE PROGRAM SHOULD DO?

2. Improve base skills to an acceptable leve.
3. Get a commitment from the people who are in class to use only English at work. They need this and we could then help their progress.
4. To improve people's math and English skills on a continuing basis.
5. Teach those who cannot read and understand process, work instruction, policies, how to do so.
6. It should do the above but should make sure that English is being practiced on the job at all times for better pronunciation of words and a better understanding. It is very rude to speak other languages. It also did not help them to understand the process better.
8. Address issues relating to processes, TCF's, etc.
12. I think the program should bring the reading, writing, speaking, math skills up to at least a 12th grade level.
13. Improve Math and Language skills.
14. Improve English and Math skills essential to work requirements.
15. Teach people to understand English and Math at a working level.
16. Improve the skills (basic) of those whom are lacking so they can move forward to more specialized course work successfully.
17. Concentrate on Reading skills (Processes and TCF)

Four did not respond.

HOW HAS THE PROGRAM IMPACTED WORK PERFORMANCE?

2. Unknown

3. No impactment from Better Skills. We do have negatives (like missing our people, unhappy with no improvement.)

4. Positive impact due to better understanding of their manufacturing process.

5. I have not seen improvement.

6. It really has had no effect because these same people will discuss the process in another language rather than English so they understand. And the performance had not improved.

7. Operator understands more.

8. With some individuals there has been little improvement. Perhaps these are the same individuals who are not practicing what they have learned.

12. Those who have participated have been primarily ESL. I have only noticed marginal improvement in the English skills in two of the participants.

13. Not able to evaluate.

14. Not favorably enough -- but where is the measurement data? People still talk in their native language rather than practicing English skills. Where do we draw the line?

15. There has been no major change.

16. I am sure there has been some but I personally am not aware.

17. Have noticed slight improvement in vocabulary of some individuals. Have also seen some people become more willing to speak.

Three did not respond.

WHAT DO YOU PERCEIVE AS PROGRAM STRENGTHS?

2. Unknown
3. Desires of the Staff.
4. One on one teaching. Half of the study time is paid.
5. The strength WOULD BE bringing people's skill levels up so they can understand and express needed information and ideas at work.
6. Stress using the English language especially in the work place. It will give them more confidence to speak English more often.
12. There seems to be a willingness on the teacher's part to work with the employees in the program.
13. Very work-place directed. Practical.
14. To date I think it has been form over substance. Can you publish measurement data so objective judgements can be made?
15. None
16. Staff and Firm commitment.

Six did not respond.

WHAT DO YOU PERCEIVE AS AREAS OF NEEDED IMPROVEMENT?

2. Unknown.

3. The people in class need to support their own new skills. Like using the language of this area, not someplace else.

4. Encourage use of English when working on [product]. Offer continuing classes to keep steady improvements. Administer tests to see if they have learned what is expected.

5. Accomplish above. [Bringing people's skill levels up so they can understand and express needed information and ideas at work.]

6. Read and explain more of the processes in your class and explain the meaning as what they say.

8. Employees who attend the class need to practice and use the skills learned. Too many times employees will be observed reverting back to their native language. Understanding of technical terms and usages appropriate to the processes on line.

12. The ESL courses appear to be very basic in nature. The students are taught simple words such as dog, cat, etc. My perception is that the students are not challenged to learn. I think there are many employees who do not know about the program or understand it.

13. None readily apparent.

14. A hiring program negating the necessity for this educational program.

15. "TEACH". People who have taken the class make it sound like more of social hour.

16. Implementation.

17. Maybe emphasis should be on process reading and understanding our documentation system first (Be Specific). Improving vocabulary and speaking skills later.

Four did not respond.

DESCRIBE THE PARTNERSHIP EXPERIENCE YOU HAVE HAD WITH THE ROBBINSDALE TEACHERS AND DEVELOPMENT COUNSELORS.

2. N/A

3. None with teahers. Very little with counselors, what there was I am very happy with.

4. None

5. Very easy to work with.

6. Only met with them once. It seemed very positive in their approach.

10. None

12. I have been able to work well with the teachers.

13. Excellent. It has been a "REAL" pleasure working with them. I believe they have a good understanding of the work place and what the company's/employee's needs are.

14. N/A

16. No contact related to programs.

17. Very friendly, positive people. I believe they are frustrated because they wonder if what they are teaching is helping. They need better direction.

Five did not respond.

WHAT COMMUNICATION PROBLEMS EFFECT PERFORMANCE AMONG NATIVE ENGLISH SPEAKING EMPLOYEES AT SCHNEIDER?

2. Unknown.

3. Not knowing if you are understood. Upsetting others trying to be understood.

4. Limited vocabulary when reading processes. Not a clear understanding of process.

5. Ability to openly interact with others.

6. When something is explained in English and you specifically ask if they understand and they will say yes. Then if an error was made, the person will say they did not understand. They have to want to apply their English skills on the job in order to improve them.

8. Following oral directions. Asking questions.

9. They should speak English at all times.

10. I think as long as they have had the English as a second language class, they should ALL have to speak English at ALL times at work.

12. I think communication is a learned skill. There are problems in basic communiction between employees because some employees do not possess basic communication skills.

13. Many do not ask questions if they do not understand. I suspect many do not grasp the meaning of many English/American words. Many have a great deal of difficulty with pronunciation. Many lack basic math skills.

14. "Native English Speaking" -- whatever they are --they are of less import than between non- NES and NES employees. SO, answering this question for non-NES people, I would say understanding word definitions and sentence structure sufficient to achieve the appropriate behavior outcome.

15. If you can speak and understand English, there is not a major communication problem.

16. Mostly the lack of communication on a regular basis.

17. PROCESS reading and understanding; TCF understanding.

Two did not respond.

Please use the same scale as before to rate each skill listed below. Indicate whether Schneider employee performance would benefit from applied job training in this skill.

1	2	3	4	5
not at all	a little	moderately	a lot	completely

OPTION	RATING				
problem solving	1	2	3	4	5
	0	0	3	5	5
writing on documents	1	2	3	4	5
	0	0	1	4	8
reading processes	1	2	3	4	5
	0	0	1	5	7
asking questions	1	2	3	4	5
	[illegible]	1	5	5	2
listening	1	2	3	4	5
	0	1	4	6	2
following oral directions	1	2	3	4	5
	0	1	4	6	2
following written directions	1	2	3	4	5
	0	0	2	6	4
counting/documenting quantities	1	2	3	4	5
	0	1	0	8	4
making yourself understood	1	2	3	4	5
	0	1	3	4	4
rounding numbers	1	2	3	4	5
	1	3	4	2	2
pronunciation	1	2	3	4	5
	1	1	2	3	5

COMMENT OR SUGGESTION

Any schooling for everyone is beneficial if you apply what you learn. (#6)

For Techs. (#16)

TCF Training. (#2)

I should hope it would help. (#10)

As pertains to understanding processes or leading to improvement. Depends who those that do not have these abilities need them, I think we should test and offer support where needed. (#5)

The current work force could benefit from training in several different areas. My question addresses the future. That time when Schneider is once again in a hiring mode. What program is being put in place to ensure that all employees hired can read and comprehend English? This should be an expectation of employment of schneiders. Other companies already have this in place. I personally know of one HRD person from another company who would be happy to visit our facility and share his company's experiences in this area. (#8)

Depends on who. Most little, some much needed. Depends who those that do not have these abilities need them, I think we should test and offer support where needed. (#5)

grammar	1	2	3	4	5
	1	1	2	3	5
vocabulary	1	2	3	4	5
	1	0	3	3	5
using a calculator	1	2	3	4	5
	1	4	1	4	2
________________(other)	1	2	3	4	5
	Three did not complete this section.				
________________	1	2	3	4	5

READING PROCESSES: Very high on list (17)

FOLLOWING WRITTEN DIRECTIONS: Processes (17)

Skills Enhancement Partnership Meeting
Tuesday, December 10, 2:30 - 4:00 P.M.
Skills Enhancement Team (SETeam) and Production Management

AGENDA:

	WHAT	WHO	TIME
I.	**Welcome**		
	Introductions Meeting Purpose Partnership Excellence	W. Malinsky SETeam member	10
II.	**The Grant Partnership**		
A.	Brief Historical Overview	Pam Streiff Program Director	5
B.	Who Robbinsdale is-- Why we do this	Mary Negri Robbinsdale AAP Manager	5
C.	The Goals	Pam Streiff	5
III.	**Program Progress to Date**		
A.	Task Analysis	Irene Kaplan Language Arts	5
B.	Summer Classes	Darlene Hetland Language Arts	5
C.	Fact Finding--Math	Nancy Palmer Math at Work	5
D.	Assessment Instrument, Personal Education Plans	Mary Gallagher Development Counselor	5
E.	Confidentiality	P. Streiff	2
F.	Questions	P. Streiff	8
IV.	**Partnership--Working together to plan an effective future**		
	The Survey Results Issues/Resolution Group Activity Refreshments	P. Streiff	35

. . . . . Total meeting time = 90

What mak for a "good" partnership?

- Trust
- Respect
- Good Comm.
- Role def.
- Common Goals
- Understanding
- Negotiating
- Team Work
- Support

SMALL GROUP ASSIGNMENT

The small groups will review the Proposal together and write out the following:

1. Brainstorm its positives

IMMEDIATE BENEFIT TCF TRAINING

SMALL MANAGEABLE PARTS

AIM = MASTERY

TRAINING APPLIES TO EVERYONE

Creates the "safe" place

CERTIFICATE

COOPERATIVE LEARNING

People HAPPIER – won't need to pretend

2. Brainstorm its ~~negatives~~ – STOPPERS/ISSUES

off hours – access – incentive

group size

group mix operator/GL/skills

off hours — ? compensation ——— LAOS communication

3. Develop an improvement or counter-proposal with positives and negatives

4. THEN, ONLY if time answer this question
"What will you do to make this partnership a reality?"

1. TASK FORCES
2. Communicate (memo thanks)
3. Achieve buy-in
   - video 10min
   - Pilot/ launch/ measure evaluate/ share success
4. Partnership

Language Arts

Instrument	Skills	Time
Interview	●Speaking - pronunciation - grammar - sentence structure - confidence	10
Oral directions (2) ●TCF - rework ●MP - new project	●Listening/Problem Solving - interpreting and following oral directions - asking questions - checking processes - tracing cause of problems	10
Manufacturing Process Sheet	●Reading - decoding - vocabulary - comprehension - interpreting and following written sequential directions - skimming and scanning for specific information - problem solving	15
Discrimination Exercise	●Visual Acuity - identifying similarities and differences	5
TCF	●Writing - interpreting and following written sequential directions - locating information on a chart - identifying details, labels, number or parts of a key or legend - interpreting codes or symbols - organizing, transferring and documenting information in correct place	10
Note Writing	●Writing - grammar - sentence structure - Penmanship	

Math

Instrument	Skills	Time
Math test	- Interview - whole numbers - decimals - percents - rounding - measurement - Reading and interpreting graphs - area - mean, median, and mode - word problems	45 min

ASSM=SCRIPT TO INTRODUCE ASSESSMENT:

The purpose of the skills assessment I will be giving you today is to determine your skills in work related areas such as speaking, listening, problem solving, reading, visual acuity and writing. (You may also be taking a math skills assessment if that is an area you have expressed interest in.) We will use the results of the assessment to determine the most appropriate class for you to attend. The results will also help your instructor develop the content of the class.

The assessment will take approximately 1 hour. I will interview you first to assess your speaking skills. You will be doing some reading and writing activities with process sheets, TCFs and other materials. One of the activities is a visual dissemination exercise.

Those of us who developed the assessment have attempted to make it as work related as possible. We also hope you will enjoy the time we spend together. All of the results are confidential and will become a part of your confidential PEP, your Personal Education Plan. (For returning students: This is the plan we began with you this summer in which we listed your personal goals for your participation in the Skills Enhancement Program or for classes outside of Schneider.) (For first time students: The Personal Education Plan is an ongoing assessment of your skills and your educational goals. These goals may be goals you have for your participation in the Skills Enhancement Program or for classes you pursue outside of Schneider.)

Do you have any questions at this time about the assessment?

As you complete each part of the assessment, I will be making notations on the scoring sheet. This scoring sheet will become part of your PEP.

Depending on which part of the assessment you are completing, I will either give you oral directions or the directions will be written.

Let's begin.

Interview Questions

1. What do you do on your job?

2. What is the hardest part about your job?

   What is the easiest?

3. When you first come to work in the morning, what are some of the things you do to get started on your job?

4. I am your Supervisor. You are a new Employee and you want to know the place and time to eat lunch, what would you ask me?

PHONICS TEST

NAME: ______________________________ DATE: ____________

I. jam vim rot yum peg
han ziv wot sud ket

II. splat frisk prod spun smell
cran glim clob grum ject

III. plate drive slope flute spy
-tate -vide -plode -pute -lete

IV. ratch rage cin hose podge

V. crawl hook moil ouch soon
mean meef faint oak lied

VI. spare dirp chore curb perk

VII. tanned hopping droped noting slices

VIII. nature captive motion bezzle mixture

IX. fantastic administer corporation tumsiptic enviable

X. functioning discrepancies vertical
discoloration specifications immerse

LEARNING STYLE DATA

INSTRUCTOR DIRECTIONS:

1. Ask employee:
If you were going to connect a VCR to a television, how would you like the directions to be given to you?

2. If the employee has difficulty with a spontaneous answer to question #1, give them the following options to choose from:

"Would you prefer to:

a. Have someone tell you?"

b. Have someone read the directions to you?"

c. See a diagram or picture of how to assemble the VCR?"

d. Have someone show you how to assemble the VCR?"

FOLLOWING ORAL DIRECTIONS

(The next activity assesses the employee's skill in following oral directions.)

INSTRUCTOR DIRECTIONS:

1. Show the bodystock to the employee.

2. Show the TCF and manufacturing process sheet to the employee.

3. Tell the employee: "The instructions for working with the bodystock, TCF and manufacturing process sheet are on tape. You may take notes, ask questions, or listen to the tape more than once." (Note on the score sheet any of the above options the employee uses.)

4. Turn on the tape.

TAPED

ORAL DIRECTIONS

GROUP LEADER: Today I have two projects for you to work on. For the first project, count the bodystock and mark the quantity on the TCF lot # HIH823401. For the second project, read and follow the directions on the Manufacturing Process sheet, #980104-001.

A Pfizer Company

CONTROL FORM

Mfg. Doc. No. 980012 -XXX	**Design Assy. No.** 980012 -013	**Description** 8FR Wonder Flow	**Qty. Issued**	**Date**	**Lot Number** HIH 823401
	Dev. No.	**Ver. No.**		**Issue** 1	**Model**
	Op. No.	**Op. No.**			**Page** of

Document Number	Issue No.	Op. No.	Description	Material Part No.	Lot Number or Specified Trace Data			Date	Employee Number	Qty. U.O.M.
820102-001		030	Extrude Sleeve, 7.0	160035-001	Lot		XXXXXXXX			
XXXXXXXXXX	XXX	XXX	Core Rod .072	710355-029	Lot		XXXXXXXX	XXXXXX	XXXXXX	XXXX
820022-001		050	Centerless Grind	XXXXXXXXXX	Mach		XXXXXXXX			
820027-001		060	Remove Core	XXXXXXXXXX	XXXXXX	XXXXXXXX	XXXXXXXX			
260072-XXX		070	Trim to Length	XXXXXXXXXX	XXXXXX	XXXXXXXX	XXXXXXXX			
820018-001		080	Clean	XXXXXXXXXX	XXXXXX	XXXXXXXX	XXXXXXXX			
260072-XXX		100	Q.A. Inspect	XXXXXXXXXX	XXXXXX	XXXXXXXX	XXXXXXXX			
——		900	Count bodystock	XXXXXXXX	XXXXX	XXXXX	XXXXX			

AMF - 18

BEST COPY AVAILABLE

CONFIDENTIAL

SKILLS ENHANCEMENT CENTER (FOR TRAINING ONLY)

MANUFACTURING PROCESS

Title of Operation Trim Catheter to Length, Manual	Document Number 980104-001

Revised by M. Homme	Date Sept. 20, 1991	Issue 1	Page 1	Op No 010A

QTY	Document Number	Material and Equipment Required

DIRECTIONS: READ THE FOLLOWING DETAILED PROCEDURE TO THE GROUP LEADER. SHE WILL THEN ASK YOU SOME QUESTIONS.

DETAILED PROCEDURE

1. For 100 cm lots only: Measure one piece of bodystock with ruler from softip end towards hub end. Visually verify that the rest of the lot meets minimum length.

2. Measure bodystock with ruler from softip to hub per Table 1.

3. Trim excess body stock off hub end with cuting block. Retrim any part with wires exposed, uneven angle or large burr. Trim only enough material to remove defect. Notify supervisor or set-up person if an acceptable cut cannot be made.

4. If cutting block distorts the roundness of the body and causes the teflon to collapse in the inside diameter, use the polycarbonate "pencil" to push the teflon back into place. Scrap any product that is too short. Keep work area clean.

5. Fill out TCF completely.

6. End of operation.

TABLE 1

CATHETER LENGTH	MINIMUM LENGTH	SET-UP LENGTH	MAXIMUM LENGTH
45 cm	44.0 cm	49.0 cm	47.4 cm
55 cm	54.0 cm	56.0 cm	57.4 cm
65 cm	64.0 cm	67.0 cm	67.4 cm
80 cm	79.0 cm	81.0 cm	82.4 cm
90 cm	89.0 cm	92.0 cm	92.4 cm
100 cm	99.0 cm	104.0 cm	102.4 cm
125 cm	124.0 cm	126.0 cm	127.4 cm
110 cm	109.0 cm	112.0 cm	112.4 cm
152 cm	150.0 cm	153.0 cm	154.0 cm

QUESTIONS FOR MP 980104-001

After the employee reads question #1 out loud, ask the employee to describe in their own words what question #1 means.

1. What is the first step you perform when you begin this operation?

2. What is the maximum allowable length for this process?

3. When would you retrim any parts?

4. What would you do if you can't make an acceptable cut?

5. Why would you use the polycarbonate pencil?

DISCRIMINATION EXERCISE

ORAL DIRECTIONS;

The purpose of this exercise is to see how quickly and accurately you can tell whether pairs of symbols are exactly the same or different in any way.

Look at the first 2 items in the last column of the exercise: each pair is either exactly the same or different in some way. When they are exactly the same you are to darken the space under S for "same". When they are different in any way, darken the space under D for "different". Now practice on the first 2 items in the last column.

The correct answers are D and S. For the first pair, you should have darkened the space under D because "ampsteyp" and "ampstcyp" are different. (Note "e" in the first group and "c" in the second.) For the second pair you should have darkened the space under S because #537 and #537 are the same.

When the signal is given, you may begin. Work as quickly and as carefully as you can. You will be given 5 minutes to complete this exercise.

NOTE: If you wish to change an answer, make a heavy "X" on the answer you want to change, then darken the correct answer.

* From CAPS, Career Ability PLAcement Survey,
Edits, SAN Diego, CALifornia 92107

DISCRIMINATION EXERCISE Key

Work down the column.

pdetjk	pdetjk	.00008.1	.0008.1	444AA3	444AA31	#2122	#2122	smpstcyp	smpstcyp
269	396	483.75	483.75	27-7309	21-7309 (5)	28513	28512	#537	#537
107RM	107RM	46779	46779	121,1312	131,1312	3400	3400	45ATB	45AIB
668697	668967	qmlvwn	qnlvnw	1121131	1121131	$21.22	$21.22 (3)	pmst65a	pmts65a
#9163	#6193	A71717	A711717 (3)	arpantz	arpantz (2)	acqlck	acqlck	1710001	17100001
675RPM	675PRM	jmp-1	jpm-1	694.42	694.24	pmstryt	psmtryt	672a43	67a243
29.003	09,003	1847	1847	06996	06996 (2)	411171	41171	(3) FFFpT	FFptt
.6667	.66667	(7) -3956	3956	786/1	786/1	35%	%35	1trslm	1trslm
JPMkT	JMKT	Apo3697	apo3691	(3) p3896	P3896	astmlk	astmlk	65001	6501
17136	17126	144A34	44A34	84.117	84.117	100100	10100	900.101	900.101
473	473	58.5%	58.5%	134#pp3	134#pp2	1.353	1.253	(3) 5773IL	5773IL (2)
1111511	111511	36,667	36.667	27113	27113	Art13	ArT13	.3670	.3607
jlnkst	jlmkst	300.016	300.016	psTS112	psT#112	1417	1417	36,969	39,696
$38.06	$38.06	#863411	$863411	843 1/5	843 1/5	oatqy	oatqy (2)	#3/41$	$3/41
MCLCW	MLCLV	36F6T	36F6T	67AW	67AV	363(37	363137	69632	69632
$367.05	367.05	536.7ap	536.7ap	slmnprt	slnmprt	141.14	141.14	Yijamt	YjiamT
481312	481312	122222	1222222	qlnstp	qlmstp	(6) $99.59	$99.59 (2)	63,67	63,67
$42.1	$421	arpntz	arpntz	-4.33	4.33	55515	55155	41253	51243
qplm	aplm	$1367.36	$1376.36	860000	86000	4-671	4/671	(2) bbblob	bbb1ob
76/313	763/13 (4)	4677,71	4677.71	(3) #8356,1	#3356.1	3217	3217	1000.00	1000.00
12#31#	12#31	1437-ab3	1437-aP3	8431/2	8431/2	aspl,rpm	apl,rpm	-31.71	-31.71 (4)
127083	127083	141L1	141L1	$21.98	$31.98	134#pp5	134#p5	(3) stlmpz	stlmpz
13167	12167	694.42	694.24	hjpsqy	Hjptsqy	(4) $21.98	$21.89	220222	22022
141001	1410001	45ABT	45AB3	(2) pmazR	pmezR	$34.10	$34.10 (2)	#3$211	#3#211
87.667	87.667	56,532	56,532	3769	3869	5554	5554	4271#	4271#
48#57	48#57	hcqierd	hcqeird	237113	237113	alpmtz	apmltz	10131	10131 (2)
1111.1!!	111.1!!	100.0001	1000.001	(2) 661996	661966 (2)	03001	.030001	(3) #117/12	#117/112
47	74	1973	1973	537%	53.7%	4babc	54abc	1471/2	147/12
100.001	100.01	2131	2131 (2)	#3abd	#3abd	27-431	27-431	-37.51	37.51
Jpo31	Jpo31	#431	$431	apt13	apt13 (2)	1!!!10	1!1!0	00.001	0.0001

1 – Count # correct
using KEY

SUMMARY SCORE SHEET

8 - 9	Stanine Scores for GRADES 8 - 9									RECORD YOUR TEST ↓ SCORES HERE		Stanine Scores for GRADES 10 - 11 - 12									10 - 11 -
Stanine	1	2	3	4	5	6	7	8	9	1 MR	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	2 SR	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	3 VR	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	4 NA	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	5 LU	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	6 WK	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	7 PSA	☐	1	2	3	4	5	6	7	8	9	Stan
Stanine	1	2	3	4	5	6	7	8	9	8 MSD	☐	1	2	3	4	5	6	7	8	9	Stan

2. ● **Find your stanine score above.**

After you have ~~recorded your~~ test scores down ~~the middle of this page~~, find the group of scores in the shaded boxes where your score falls. Circle that box and the stanine box below it.

CAPS ABILITY PROFILE – FILE COPY

3.
Determine
% from
column
#1

CAPS TEST	1	2	3	4	5	6	7	8
	MR ▼	SR ▼	VR ▼	NA ▼	LU ▼	WK ▼	PSA ▼	MSD ▼
STANINE SCORE	☐	☐	☐	☐	☐	☐	☐	☐
	9	9	9	9	9	9	9	9
	8	8	8	8	8	8	8	8
	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6
	5	5	5	5	5	5	5	5
	4	4	4	4	4	4	4	4
	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2
	1	1	1	1	1	1	1	1

Percentile
- 99
- 96
- 93
- 89
- 83
- 77
- 68
- 60
- 50
- 40
- 32
- 23
- 17
- 11
- 8
- 4
- 2

TCF ACTIVITY (ASSESSOR DIRECTIONS)

For the next activity you will be working with a TCF. Please follow the written directions.

DIRECTIONS

As a Schneider Employee, you are currently working in packaging. Your process number is **820091-002.** Refer to the accompanying TCF.

1. What is the name of your process?

2. What 4 pieces of information do you need to enter on the TCF? (Give the 4 categories of information you need to enter, not the specific information.)

   (1)

   (2)

   (3)

   (4)

3. Now, using the following additional information, fill in the 4 specific pieces of information on the TCF:

   (a) The current issue number is 12.

   (b) There are 50 catheters in the lot you are working on.

c:\wp51\d\pam\820091u.tcb

Pfizer SCHNEIDER

TRACEABILITY CONTROL FORM

CONFIDENTIAL

FG Doc. No. 560107-XXX

Design Assy. No. 560107-186

Description Coronary STPT, 8 FR, 110cm, 12 HOles

Dev. No. ______ Op. No.

Var. No. ______ Op. No.

Qty. Issued

Date

Lot Number NCV

Issue 1

Model K18-004

Page of

Document Number	Issue No.	Op. No.	Description	Material Part No.	Lot Number or Specified Trace Data			Date	Employee Number	Qty. U.O.M.
xxxxxxxxxx	xxx	xxx	Catheter Assembly	510069-186	L/N=			xxxxxxx	xxxxxxx	xxxxxx
820091-002		010	Generate Labels/IFU's	260428-011	260493-001	IFU L/N=				
830058-001		020	Inspect Labels/IFU's	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
820030-001		040	Clean Catheter	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
xxxxxxxxxx	xxx	xxx	Mylar Rolls	110036-001	L/N=		xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxx
xxxxxxxxxx	xxx	xxx	Tyvek Rolls	110037-001	L/N=		xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxx
xxxxxxxxxx	xxx	xxx	Uncoated Barrier Bag	360001-001	L/N=		xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxx
xxxxxxxxxx	xxx	xxx	Alt. Coated Barrier Bac	360194-001	L/N=		xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxx
820232-001		110	Form and/or Seal Bag	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
820094-002		150	Label Barrier Bag	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
830058-001		160	Q.A. Inspect Packages	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
820092-001		170	Load/Label Shelf Carton	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
820007-002		180	Load Shipping Box	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
830058-001		190	QA Inspect/Seal Carton	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
xxxxxxxxxx	xxx	xxx	Ship to Sterilizer	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			
830015-001		210	Quarantine	xxxxxxxxxx	SL=					
830016-001		220	Final Inspect/Release	xxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxx			

NOTE WRITING

Your supervisor has asked you to check the order of safety glasses that has just arrived. You look in the box and see that 12 of the glasses are damaged. You do not know what to do with this order. Leave a note for your group leader or supervisor asking for her/his advice.

Your supervisor is attending a meeting all day and you have a dental appointment tomorrow at 8:30 am. Leave a note informing your supervisor of your appointment.

TOTAL = 50

LANGUAGE ARTS ASSESSMENT SCORE SHEET

SPEAKING (21)

				Class Rec.
INTERVIEW Pronunciation	1 Not understood	2 3 Understood	4 5 Fluent	
Vocabulary	(#Correct) (Poss. 6)	Pronun.______	Definition______	
Comments:				
Grammar -verbs -nouns/pronouns -prepositions -articles	Incorrect	Correct		
Sentence Structure				
Conversational Vocabulary	1 2 Limited	3 4 Average	5 Extensive	
Confidence	1 Eye Contact	1 Volume	2 Spontaneously Adds Details	
Comments: Total _____				

LISTENING/PROBLEM SOLVING (4)

			Class Rec.
ORAL DIRECTIONS	Incorrect or Incorrect seq.	1 2 Correct and/or correct sequence	
-Following directions -Asking questions			
Comments: Total _____			

READING (17)

MP	Max Syllables Decoded	Reading Problems	
Decoding			
Comprehension	(+ or -) _______		

ASSESSMENT SCORE SHEET - PAGE 2

			Class Rec.
READING (Con't)			
Following directions	Incorrect	Correct	
-Answer questions	(#correct 5 questions)	______________	
-Skimming	(+ or -) ________		
-Problem solving	(+ or -) ________		
-Vocabulary	Knows definition	Doesn't know definition	
-General			
-Technical			
Comments: Total ______			

VISUAL ACUITY (9)				
DISCRIMINATION WORKSHEET	# Correct	# of Errors	Stanine Score	
-Identifying similarities and differences				
Comments: Total ______				

WRITING (8)			
TCF	Incorrect	Correct or Correct Seq.	
-Interpreting & following sequential directions			
-Locating information on a chart			
-Identifying details			
-Interpreting codes/ symbols			
-Documenting information in correct place	# of pieces Documented Correctly 1 2 3 4		
Comments: Total ______			

INTERVIEW NOTE WRITING (7)				
-Grammar	Incorrect	Correct		
-verbs				
-nouns/pronouns				
-prepositions				
-articles				
-Sentence structure	No	Unclear	Yes	
-Penmanship	Illegible	Legible		
Comments: Total ______				

Assessment Total ______

DATE ____/____/____

LANGUAGE ARTS ASSESSMENT SUMMARY

NAME JOB/SUPV.	POINTS PRE/PST/CHNG	SPEAKING	LISTENING	(MP) READING	(TCF) WRITING	VISUAL ACUITY	NOTE WRITING
TOTAL ______		______	______	______	______	______	______
ESL ______		______	______	______	______	______	______
OTHER ______		______	______	______	______	______	______
GROUP AVE.		PRON______	ORAL DIR______	DECOD______	DIREC______	1.______	GRAM______
AVE. PRETEST PT______		GRAM______	PRON______	DIREC______	LOC INF______	2.______	SENT.STR______
AVE. POSTTEST PT______		SENT STR______	VOCAB______	QUES______	DOCUM______	3.______	PNMSHP______
AVE. CHANGE______		CONVERS______	OTHER______	COMP______		4.______	
			PROB SOLVE______	PROB SOLV______		5.______	
			ASK QUES______	VOCAB______		6.______	
						7.______	
						8.______	
						9.______	

DATE ____/____/____

MATH ASSESSMENT SUMMARY

NAME JOB/SUPV.	POINTS PRE/PST/CHG	WHOLE #'S CALC	WD PROB.	MEAS.	RD. TBLS DEC.	RNDING	AREA	STATS MEAS.	MATH VOCAB.	%
TOTAL______		________	________	________	________	________	________	________	________	
ESL_______		________	________	________	________	________	________	________	________	
OTHER______		________	________	________	________	________	________	________	________	
GROUP AV.		ADD______	WHOL#_____	EYEP______	PLC VAL___			MEAN______		x__
AVE. PRETEST PT______		SUB______	TIME______	RULER_____	WRT DEC___			MEDIAN____		-__
AVE. POSTTEST________		MULT_____	MEAS______		RD DEC____			MODE______		
AVE. CHANGE__________		DIV______	DEC_______		FRAC DEC___			RANGE_____		
		CALCUL____	AREA______		CMPR DEC___					
					RDNG TBLS__					

PERSONAL
EDUCATION
PLAN

Date:______

For:________________________

Employee number:______

Pfizer SCHNEIDER

+

EMPLOYEE: ________________ FOCUSED FACTORY: ________________

SUPERVISOR: ________________ JOB CLASSIFICATION: ________________

PERSONAL EDUCATION PLAN (PEP):

GOAL: To improve the following language arts skills in order to increase productivity on the job.

SPEAKING: Level ________

________ Phonics/Pronunciation ________ Grammar

________ Sentence Structure

________ Conversation

LISTENING

________ Oral Directions

________ Vocabulary (technical, general)

________ Asking Questions

________ Problem Solving

READING (MP)

________ Written Directions

________ Comprehension

________ Vocabulary (technical, general)

________ Asking Questions

________ Problem Solving

WRITING (TCF)

________ Directions

________ Locating Information

________ Documentation

VISUAL ACUITY

________ Accuracy

________ Speed

NOTE WRITING

________ Grammar

________ Sentence Structure

________ Penmanship

EMPLOYEE: ____________________ FOCUSED FACTORY: ____________________

SUPERVISOR: __________________ JOB CLASSIFICATION: ________________

PERSONAL EDUCATION PLAN (PEP):

GOAL: To improve the following math skills in order to increase productivity on the job.

WHOLE NUMBERS (#1-6)

________ Addition
________ Subtraction
________ Multiplication
________ Division

WORD PROBLEMS (#5,6)

________ Vocabulary
________ Process

MEASUREMENT

________ Time (#6)
________ FM (#12)
________ Eye Piece (#13)
________ Ruler (#14)

DECIMALS

________ Fractions to Decimals (#13)
________ Addition (#7,8)
________ Subtraction (7,8)
________ Place Value (#9)
________ Writing (#10)
________ Rounding (#11)

TABLES/CHARTS

________ Reading (#12)

________ **AREA** (#15)

________ **STATISTICAL TERMS** (#16)

PERCENT

________ Subtraction (#18,20)
________ Multiplication (#17)
________ Division (#19)

________ **MATH VOCABULARY** (5-20)

________ **USE OF CALCULATORS** (#5-20)

SELF IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

MGT IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

PERSONAL GOALS:

1.

2.

3.

4.

PERSONAL EDUCATION PLAN

Date:_____ For:_____________________ ___

Employee number:

Pfizer SCHNEIDER

EMPLOYEE: FOCUSED FACTORY:

SUPERVISOR JOB CLASSIFICATION:

PERSONAL EDUCATION PLAN (PEP):

GOAL: To improve the following language arts skills in order to increase productivity on the job.

SPEAKING: Level 1

_☆_ Phonics/Pronunciation ______ Grammar

_✓_ Sentence Structure

_✓_ Conversation

LISTENING

_☆_ Oral Directions

_✓✓_ Vocabulary (technical, general)

______ Asking Questions

_✓_ Problem Solving

READING (MP)

_☆_ Written Directions

_✓_ Comprehension

_✓✓_ Vocabulary (technical, general)

_✓_ Asking Questions

_✓_ Problem Solving

WRITING (TCP)

_☆_ Directions

_✓_ Locating Information

_✓_ Documentation

VISUAL ACUITY

______ Accuracy

______ Speed

NOTE WRITING

______ Grammar

______ Sentence Structure

Penmanship

Employee: ________ **Focused Factory:** ________

Supervisor: ________ **Job Classification:** ________

Personal Education Plan (PEP):

1. Improve pronunciation/speaking skills by reviewing the following phonetic sounds/skills: short vowels, (g k) (d t) (c s) (v w), au, oo, aw, ar, ir, or, ur, endings, silent e
Increase conversation vocabulary + diction.
2. Increase ability to follow oral and written directions by developing knowledge of technical and general vocabulary terms.
3. Improve ability to process information and follow oral and written directions by practicing following simple and complex work related directions.
4. Improve understanding of MP by developing reading comprehension skills of skimming for details, drawing conclus..
5. Develop ability to locate, transfer and document information on the TCF.

OPPORTUNITIES FOR IMPROVEMENT

MANUFACTURING PROCESSES/RESPONSIBILITIES:

Current Job Responsibilities

1. Balloon blowing
2.
3.
4.
5.

Next Cross-training Operation(s):

1. None currently
2.
3.

Employee: ____________ **Focused Factory:**

Supervisor ______________________ **Job Classification:**

Personal Education Plan (PEP):

1. Practice listening skills & improve listening attitude so work directions will need to be repeated only on rare occasions
2. Increase conversational vocabulary for improved content and understandability
3. Improve reading comprehension skills, particularly locating information and drawing conclusions. Enroll in next ESL Reading class
4. Improve pronunciation and conversation skills by enrolling in the next class on Conversation Skills.
5.

OPPORTUNITIES FOR IMPROVEMENT

MANUFACTURING PROCESSES/RESPONSIBILITIES:

Current Job Responsibilities

1. Balloon blowing
2.
3.
4.
5.

Next Cross-training Operation(s):

1. None currently
2.
3.

F IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

7/17/91 Feels both his pronunciation & reading has improved since beginning classes. He wants to continue to improve. Needs to practice listening skills &
6/92 concentrate on pronunciation. Wants to increase his conversational vocabulary. Diagrams & pictures are especially helpful to him when reading. Needs to calculate %'s but relies on calculator.

MGT IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

7/15/91 Difficult to understand. Appears to not be "connecting." Needs repeated directions. Co-workers & group leader are unable to follow his pronunciation. Mechanically very astute. Uses calculator on-the-job but probably doesn't understand the processes being performed. Needs to concentrate on READING & SPEAKING.

5/92 Verbal communication is a problem. It is very difficult to understand him. Reading new processes is a problem – He would rather be shown how to do process. Needs to continue to focus on reading and speaking.

PERSONAL GOALS:

1. Complete SPC classes at Schneider (Summer 91)
2. Attend ESL classes at Schneider (Spring, summer 91)
3. Take a computer operations class/classes
4. outside Schneider (after return visit to Laos)
5.
6. Possibly return to job and [illegible] [illegible] summer))

Pfizer SCHNEIDER

INTEROFFICE MEMO

To: Pam Altrowitz

From: Mary Gallagher

Subject: ESL Class Evaluation Results

Attached please find a summary of the ESL Class Evaluation results. The five categories have been combined into three categories for reporting purposes. The categories are: 1. greatly improved and moderately improved; 2. slightly improved and no change or worse; 3. not observed. Category totals for supervisors/ group leaders(SG) and employees(E) are listed next to each item.

<table>
<tr><th></th><th>GREATLY IMPROVED 3</th><th>MODERATELY IMPROVED 2</th><th>SLIGHTLY IMPROVED 1</th><th>NO CHANGE OR WORSE 0</th><th>NOT OBSERVED N/O</th></tr>
<tr><td>1. Understands oral directions</td><td colspan="2">S/G 5
E 9</td><td colspan="2">S/G 8
E 0</td><td></td></tr>
<tr><td>2. Understands written instructions</td><td colspan="2">S/G 6
E 7</td><td colspan="2">S/G 6
E 2</td><td>S/G 2</td></tr>
<tr><td>3. Is able to read process sheet</td><td colspan="2">S/G 2
E 9</td><td colspan="2">S/G 4
E 0</td><td>S/G 4</td></tr>
<tr><td>4. Locates specific information on process sheet</td><td colspan="2">S/G 3
E 9</td><td colspan="2">S/G 4
E 0</td><td>S/G 6</td></tr>
<tr><td>5. Follows procedures on process sheet</td><td colspan="2">S/G 6
E 8</td><td colspan="2">S/G 7
E 1</td><td></td></tr>
<tr><td>6. Asks for help when it is needed</td><td colspan="2">S/G 5
E 7</td><td colspan="2">S/G 6
E 2</td><td></td></tr>
<tr><td>7. Identifies and reports problems</td><td colspan="2">S/G 5
E 8</td><td colspan="2">S/G 8
E 1</td><td></td></tr>
<tr><td>8. General quality of work</td><td colspan="2">S/G 4
E 8</td><td colspan="2">S/G 7
E 1</td><td></td></tr>
<tr><td>9. General quantity of work</td><td colspan="2">S/G 5
E 9</td><td colspan="2">S/G 7
E 0</td><td></td></tr>
<tr><td>10. General need for supervision</td><td colspan="2">S/G 2
E 8</td><td colspan="2">S/G 8
E 1</td><td>S/G 2</td></tr>
</table>

Key: S/G = Supervisor/Group Leader
E = Employee

Comments from Supervisors and group leaders:

"___ has always been an outstanding employee in her performance."

"I have noticed ___ is more confident in speaking up in a group setting."

"___ has always been a worker with excellent achievement in quality/quantity of work. She has improved in confidence."

"There are other employees who could definitely benefit from the class."

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Pfizer SCHNEIDER

TO:

CC: Wendy Malinsky Stacy Stockdill

Participant Name	FYI to Lead/Supervisor
Janice Bickford	D. Terzich
Gloria Engfer	J. Czichray
Mike Gerdts	C. Lehman
Kelly Halek	M. Gerdts
Julie Hollenbeck	G. Engfer
Khampiou Keomaniphone	D. Terzich
Mike Mortenson	R. Garrison
Mike O'Connor	C. Lehman
Renata Oszast	S. Showalter
Kim Kham Samnanveth	M. Maunu
Steve Showalter	J. Czichray
Frank Smaron	D. Alverson
Somxay Sophaphanh	M. Maunu
Phetsamone Thephachane	M. Gerdts
Malychanh Thephanonxay	D. Terzich
Lee Weissenfluh	K. Link
True Xiong	D. Gullickson

FROM: [redacted], Mary Gallagher, Lucinda McCormack 10/30/92

RE: **FREE LUNCHEON INVITATION--Skills Enhancement Grant Evaluation**

Schneider's Skills Enhancement Grant Program is being evaluated. The money we received from the Federal Department of Education also pays for an outside Evaluation Specialist to review the Program. Our evaluator, Stacy Stockdill, has asked to hold a focus group meeting. Stacy wishes to speak with a group of employees who have participated in our Program, both in its development and the classes. We are arranging a buffet lunch to make this a little more fun for you.

The luncheon focus group meeting will be held Thursday, November 5th in Training Classrooms A and B from 11:00 A.M. until 12:00 P.M.

The following employees are invited to the luncheon. Stacy will ask the group questions so she can learn about the Grant training sessions and how we have affected the Company's employee training needs.

Janice Bickford
Gloria Engfer
Mike Gerdts
Kelly Halek
Julie Hollenbeck
Khampiou Keomaniphone
Mike Mortenson
Mike O'Connor
Renata Oszast
Kim Kham Samnanveth
Steve Showalter
Frank Smaron
Somxay Sophaphanh
Phetsamone Thephachane
Malychanh Thephanonxay
Lee Weissenfluh
True Xiong

We appreciate your time; thank you in advance for sharing your ideas about our Program. **Please call Pam Altrowitz at extension 5548 to confirm your attendance or give regrets.**

June 10th meeting: 8:30 to 10:00 am

Julie Hollenbeck

Helen Spoden

Nancy Palmer

Rose Lawson

Joann Russell-absent

Agenda:

1. Meet one another-introductions
2. What training needs to be done on the ADL? Disposition?
3. What errors/problems do you see?
4. Why are the errors made?

   Is the problem with Math,TCF form, ADL process sheets?
5. What type of Math training is needed?

   What Math skills are needed on the job?
6. Who should receive the training?
7. Who should give the training?

TOPICS

Rewrite ADL process sheets

Listing of percents on ADL should be in numerical or alphabetical order

Use a grid or chart formation so it's easier to read

Some additional categories are necessary (refer to old process sheet)

Make the categories more consistant with master code list

Example needs to be changed

Add calculator key strokes

Specify how many parts would warrant rework as opposed to scrap

Specify that rework takes priority over other work

On count discrepancy sheet, add instructions for cells 2 through 6 (diagnostic)

Write ADL for extrusion,braiding and power injection

Training on the ADL

Why do we have it and what is it used for

Are percents figured on parts issued originally or current number of parts received by each cell

Who should come to traning: should a pre-test be given to screen/assess employees

How to fill out the TCF : what is ADL and what is disposition

How to describe specific defects so they agree with master code list

Rework: how to write up rework on the TCF

Group leaders should check TCF's before sending on to next cell

Reading the ADL process sheets

Figuring percents,rounding

Classes should be 10 or less in size

Classes could be given to an entire cell at one time so specific problems would be clarified

Right type and number of signatures

Numbers and correspondence should match on both parts of back of TCF

Math Instruction

Drop-in center with teacher / books / computer software
(specific job related math questions could be answered in a non-threatening environment)

Topical classes that are Schneider job related; each class would be one session only and employees could attend as many classes as they need

On-going math instruction as recommended September,1991

June 10, 1992 Meeting: Bonnie Slovick
Mary Maunu
Rose Lawson
Nancy Palmer

ADL Concerns:

- need to update ADL content/process sheets (see Mike Gerdts)
- Figuring percentages
- ADL form - flaws, mistakes, empty spaces (see M.Gerdts)
- Group leaders - first contact on floor - they should know all aspects of ADL
- Operators don't always read process sheets, changes on process sheets
- Any changes on the ADL process sheets would take quite a while to complete and be put into use

Training Idea:

- Operators only - approximately 1 hour - by cell
- Group Leaders - train first - more extensive
- Group leaders then give training on the ADL to the operators in their cell

Math Pre - Assessment Scores:

The math pre-assessment test was given to 3 different cells randomly chosen to participate in the Math at Work Team Project for the Skills Enhancement Program. These employees were not identified as needing math refresher. Rather, they are groups of workers who have willingly decided to participate in the project. As part of the project, the math pre-assessment was given to determine their strengths and weaknesses.

Range of Scores: 4% to 88%

Average score: 54.5%

Median (middle) 58%

CONSULTING REQUEST FORM

Please complete the following information, providing as much detail as possible; if you need more space to record your responses, feel free to attach additional pages or write on the back sides of this form.

1. **Client Contact(s)**

a. Client Name/Contact: Mike Gerdts
b. Position: Quality Tech
c. Phone Extension: 5599
d. Department:
e. Are there other contacts, besides yourself, who need to be involved in defining this project; if so, please list their names and Departments:

Names	Departments
Bonnie	
all Bonnie's inspectors	

2. **Working Project Title**

Please identify a working title for this project: Eyepiece Training

3. **Project Overview**

a. Please provide a summary description of this project. What are your project objectives?

1. Provide training material resources
2. Train GLs/Supervisors how to use
3. Establish a level of certainty about pass/fail decision-making.

b. Who is your target audience?

Position Titles:	Number of Participants:
Whole Production Floor	
as determined by GL/Sup	
Train trainer for GL/Sup	

c. What learner outcomes (skills, behaviors, and/or attitudes) do you want this project to encompass? demonstrate abil to measure accurately w. eyepiece and make correct pass/fail decision when inspecting defects.

d. What are the primary benefits for initiating this project?

Reduce scrapping of parts meeting visual standards.

e. Are there other Departments' personnel who would benefit from this project; if so, please list the Departments and corresponding position titles:

Departments	Position Titles
can be a general co. resource...	
feedercells	subassy < 2 groups ~~Guide~~ Diagnostic
? extrusion	final assy

4. **Measurement**

a. How would you recommend measuring participants' knowledge of the project's subject matter prior to attending training (Pre-training, Base-line Measurement)?

baseline — A) ran "pilot" hands-on-session with inspectors who needed it.
B) operators are requesting help with this topic
c) product in scrap bins
pretest — suggest developing a test that summaries key skills.

b. How would you recommend measuring participants' learning during training (Skill practice/Application)?

hands on, correcting worksheets, GLs
GL meets with Mike/Pam to review progress/results

c. How often and what methods would you recommend using to measure participants' learning/skill transfer following formal training (Post-training Measurement)?

Post-training Measurement Methods:	**Frequency:**
test scrap bin parts	
review meeting w. small work groups	
post test	

d. How soon after initial training would you recommend follow-up training occur?

as determined necessary by GL

5. **Training Execution**

How much time do you think it will realistically take to conduct each training session associated with this project? Train the Trainer

a. Number of Days per Session: 1
b. Number of Hours per Session: est 2 hrs
c. Total Number of Separate Training Sessions: est 5

d. Please identify if you prefer a specific type(s) of training medium/media for this project (i.e., video, lecture/ presentation, skill practice/application, self-directed study, etc):

1. Train the Trainer lecture / hands on skills practice
2. GLs use with their people
3. GLs followup meet w. Mike / Pam / Teachers

6. **Project Implementation Dates**

What are your estimated project start and completion dates?
 - Aug. 15th

7. **Resources**

a. Are there internal/Schneider resources whom you would recommend be a part of the design and/or delivery of this project?

Internal Design/Content "Specialists":	Internal Delivery/Facilitators "Specialists":
Mike Gerdts	Mike
Pam Altrowitz	Pam

b. Are there external resources (outside vendors) whom you would recommend be a part of the design and/or delivery of this project?

External Design/Content "Specialists":	External Delivery/Facilitators "Specialists":
Nancy Palmer	Nancy
Rose Lawson	Rose

8. **Budget**

a. What is the targeted budget for this project? copying $250

b. What Department(s) and corresponding Cost Center(s) will be charged for project expenditures?

Department(s)	Cost Center(s)
Clerical / Teachers Grant $	1 102.9100
Copying MTC	701

c. Whose signature(s) will be required to authorize project expenditures?

GL's time	Bob Garec	Cost Center	*Dept. Head Sign-off
Mike's time	Charlie Lehman	Cost Center 719	*Dept. Head Sign-off
teachers copying	Wendy Malinsky	Cost Center above	*Dept. Head Sign-off

*Department Head is either a Vice President or Director.

d. What types of returns on your investment are you looking to achieve? Quick payback

3 guiding catheter: pay for copying

9. **Other Comments:**

FOR INTERNAL USE ONLY

1. Comments:

2. Priority Level/Status:

3. Submitted By: ______ Date: ______

4. Received By: ______ Date: ______

5. Approved By: ______ Date: ______

6. Project Consultant Name: ______ Follow-up Response Date: ______

Sample

Input Sup/GL's

Name:

Factory/Cell: Clean room

Position: Parts Cleaning/Coating

BASIC MATH SKILLS USED ON THE JOB: REF. MP#, OP#/PAGE

1) Add, subtract, multiply, and divide whole (non-decimal) numbers.
add totals of parts done a night (coating)

2) Solve whole number word problems

3) Find an average of a set of numbers

4) Use a calculator to perform basic operations
to add totals of parts done a night

5) Read and understand graphs

6) Write equivalent fractions forms eg. 6/9=________

7) Add and subtract fractions

8) Multiply and divide fractions

9) Read, write, and say decimal numbers.

10) Order decimal numbers largest to smallest or smallest to largest

11) Convert fractions to decimals or decimals to fractions

12) Add and subtract decimals

13) Multiply and divide decimals

14) Working with percentages

15) Understand metric measurements

16) Solve ratio/proportion problems

17) Use formulas

18) Measure linear units

19) Describe basic geometric terms (areas, shapes, etc.)

20) Perform linear/perimeter/circumference calculations

21) Calculate area

22) Understand terms such as median/mean/mode/range

23) Calculate time additions
coating - 2 hours to hang
cure coat (8) 8 hours

24) Understand algebraic expressions

25) Read dials/gauges/instruments. What type are used in your area? flow meter - partscleaning, clean parts page 2
air pressure - coating & parts cleaning, ohm readout - parts clean, clean parts page 3

26) Solve problems by using correct order of operations

27) Determine if a solution to a mathematical problem is reasonable

28) Understand degree measurement (45, 90, etc.)

29) Show understanding of a tolerance

30) Rounding decimal numbers

31) Other

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SKILLS ENHANCEMENT PROGRAM

EYEPIECE TRAINING

Pam's copy

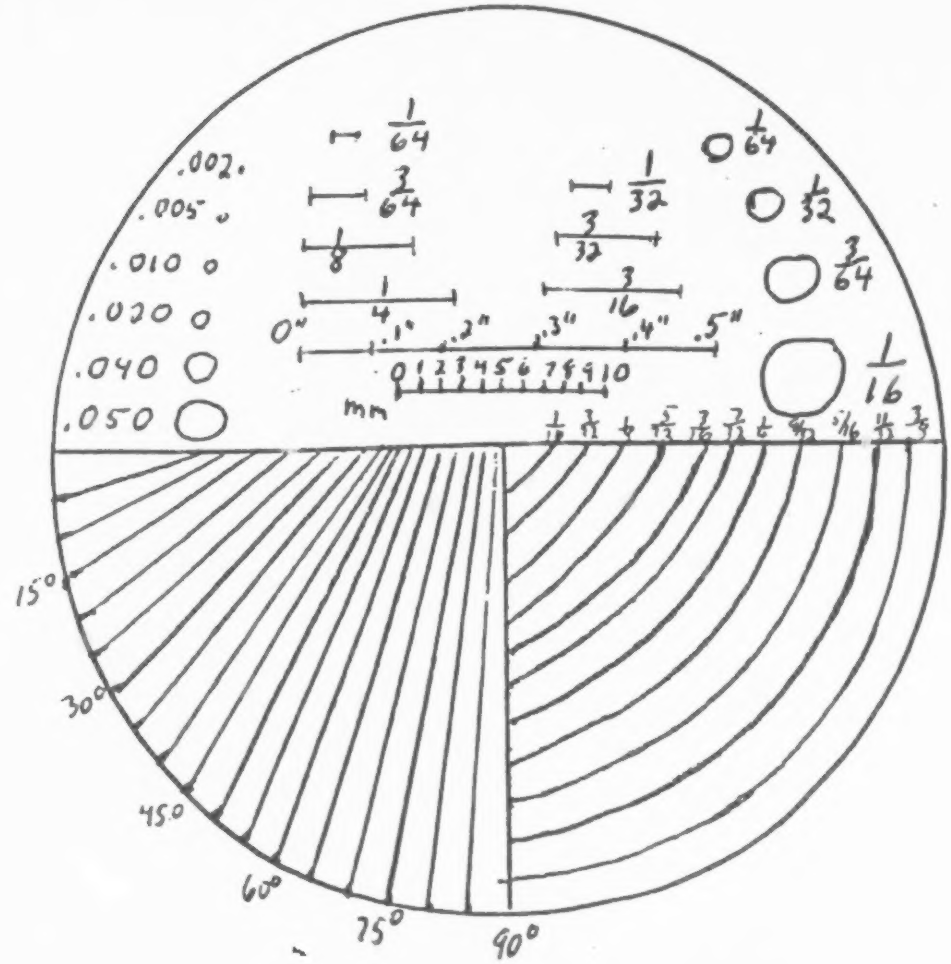
EYEPIECE UNIT

VOCABULARY

Reticle	-- a grid or pattern used to establish scale in the eyepiece of an optical instrument.
Template	-- a pattern or gauge used as a guide in making something accurately or measuring something accurately. Same as reticle.
Eyepiece	-- the lens in an optical instrument.
Dimension	-- a measurement of width, height, length.
Length	-- the longest measurement or dimension of an object.
Width	-- the side to side measurement or dimension. The opposite measurement to length.
Area	-- a surface, i.e. surface of a table, floor, bodystock.
Square units	-- unit of measurement for area found by multiplying inches by inches, mm by mm, etc.
Non-symmetrical	-- irregular in shape. Not balanced with regard to a line or boundary.
"	-- symbol for inches.

WHAT SCALES ON THE RETICLE ARE USED?

Reticle used at Schneider. Guiding and Diagnostic Factories.


1/64
3/64
1/8
1/4
1/32
3/32
3/16
1/64
1/32
3/64
1/16
.002
.005
.010
.020
.040
.050
0"
.1"
.2"
.3"
.4"
.5"
0 1 2 3 4 5 6 7 8 9 10
mm
15°
30°
45°
60°
75°
90°

This is a standard reticle that we buy from a company and therefore it has more lines or measurements than we need here at Schneider. The **ONLY** part that we use are the circles marked .010, .020, .040, .050 and the first section of the line marked

0" .1 .2 .3 .4 .5".

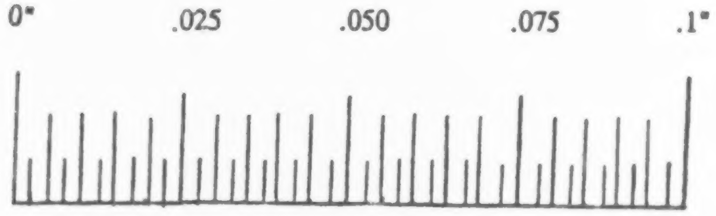
MOST of the time you will use the line from 0" .1" for your measurements. The entire other part of the reticle is never used.

The circle marked .020 may also be used when measuring a round fm.

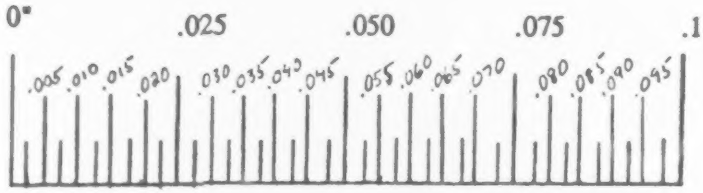
Remember to adjust the focus on your eyepiece by turning the outside rim. If the calibration label prevents the rim from turning, move the label. Also make sure your eyepiece is kept clean.

HOW TO READ THE INCREMENT LINES

The section of the line that you will use is between 0" and .1". The increment lines are not numbered so you must know the value of each line in order to measure accurately.


0"
.025
.050
.075
.1"

If you think of .1 as $1.00, then you can divide the dollar first into quarters (see above) and then into nickels (see below).


0"
.025
.050
.075
.1"
.005
.010
.015
.020
.030
.035
.040
.045
.055
.060
.065
.070
.080
.085
.090
.095

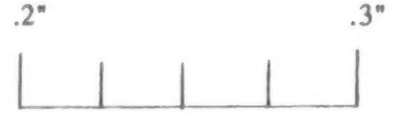
The smallest increment lines would represent .0025" or 1/2 of a nickel (2-1/2 cents).

For your measurements here at Schneider, use the nickel lines. It is not necessary to be more precise (accurate). Notice that all measurements are in thousandths.

Optional

If you want to know how to find the values of the lines between 0" and .5", we suggest that you use the training materials for decimals, specifically dividing decimals, ranking decimals and adding/subtracting decimals. Always work from the longest lines to the shortest.

EXAMPLE:



Step 1: Subtract numbers to find the difference.

$.3 - .2 = .1$

Step 2: Divide the difference by the number of sections between .2 and .3.

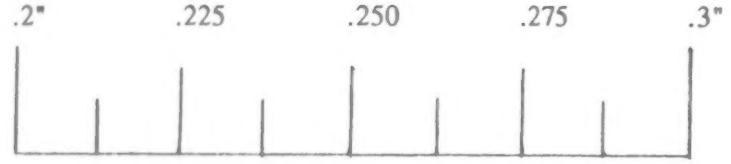
$4\overline{)\,.1}$ Answer: $\begin{array}{r} .025 \\ 4\overline{)\,.100} \\ \underline{8} \\ 20 \\ \underline{20} \end{array}$

Step 3: Add .025 to each previous number representing the same increment lines.

$\begin{array}{r} .200 \\ +\ \underline{.025} \\ .225" \end{array} \quad \begin{array}{r} .225 \\ +\ \underline{.025} \\ .250" \end{array} \quad \begin{array}{r} .250 \\ +\ \underline{.025} \\ .275" \end{array} \quad \begin{array}{r} .275 \\ +\ \underline{.025} \\ .300" \end{array}$

Notice: $.2 = .200$

$.3 = .300$



PRACTICE USING RETICLE TO MEASURE:

Use examples of fm.

1. Have students measure length (longer) and width (shorter).

2. Have students record measurements on paper.

Sample A **length** ________ **width** ________

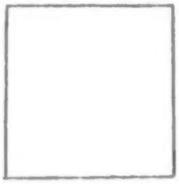
Sample B **length** ________ **width** ________

Sample C **length** ________ **width** ________

AREA:

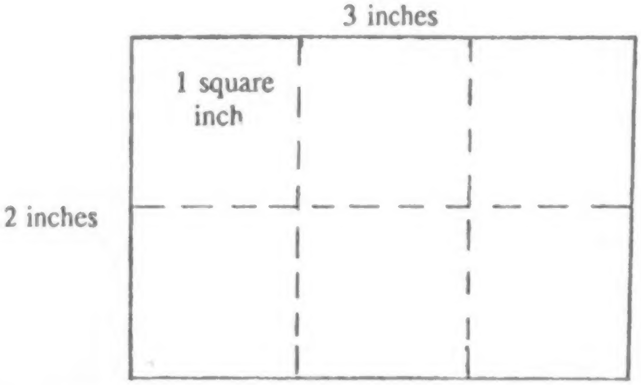
Area is a measure of surface such as a tabletop, a floor, a wall. To measure area, you use an area unit shaped like a square. A square has four (4) equal sides that meet at right angles.

Sample: 1 square inch



Finding area means dividing your figure to be measured into square units. The rectangle is common figure to work with.

EXAMPLE:



Area = length x width

3" x 2" = 6 square inches

FM AREA:

Given the following dimensions of length and width of an FM, calculate the area of the FM and is the FM within the acceptable maximum of .0004 inches?

LENGTH	WIDTH	AREA	ACCEPTABLE (Yes/No)
.010	.030		
.015	.025		
.020	.025		
.025	.015		
.030	.020		
.015	.025		
.030	.015		
.020	.020		
.040	.010		
.035	.015		

AREA = Length x Width

TRAINING SUGGESTIONS FOR EYEPIECE

The way information is presented is as important as the information itself. Hands-on is the best approach to use in the eyepiece training. An active and positive atmosphere in a math focused training is essential. The following are suggestions for you to consider.

1. Don't assume that the employee knows as much as you do about math. Many of them may be intimidated by the subject and have a high level of anxiety.

2. Re-assure the employees that all questions are important and welcomed.

3. Use vocabulary that is consistent with the process sheets and common usage here at Schneider. Also use vocabulary that is understood by the employees,especially the non native English speaking employees.

4. Since some employees may not be comfortable answering questions,do not call on people for answers; ask for volunteers.

5. Teach a concept first and then ask queations to test for understanding. Ex. Teach the value of the increment lines, then have the employees do one together with you on the board.

6. Use the overhead projector and the transparencies provided.

7. Have the employees use a highlighter to mark the areas on the reticle handout that are used.Concentrate on the concept that we will use only 0" to .1" on the line marked 0" to .5".

8. Empasize what can be ignored on the eyepiece. Some employees feel this extra information on the reticle is confusing.

9. Explain that length and width can be interchanged when figuring area. The important fact is that two measurments are taken, not what they are called.

10. Break instruction into manageable steps. Check for understanding before moving from one concept to another.

11. Relate math concepts to real-life as well as the workplace.

12. Ask open ended questions that require more than a single word or number as an answer. Ex. How did you arrive at that answer?

13. "Think out loud" as you explain how you measure FM.

For GL do's don'ts
working with people
on math...

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SKILLS ENHANCEMENT PROGRAM

DECIMALS

Unit I

Decimals - Unit One

◆ What is a Decimal?

A decimal number is a special type of a fraction that has 10 or multiples of 10 as its denominator. Examples would be 3/10 (.3), 27/100 (.27), 15/1000 (.015). Money is the most common use of decimals. $0.25 means 25 cents or 25/100 of a dollar. The U.S. dollar is made up of 100 parts (pennies).

◆ Place Value for Decimals

Both fractions and decimals represent (show) a part of a whole. In a fraction, the number of parts in the whole is written as the bottom number, the denominator. Examples: 1/2, 3/4, 5/8,. In a decimal, the denominator is not written. Instead, the value of the denominator is found (determined) by counting how many places to the right of the decimal point are taken up by the number.

1 place = tenths	.4	4/10
2 places = hundredths	.05	5/100
3 places = thousandths	.012	12/1000
4 places = ten-thousandths	.1234	1,234/10,000
5 places = hundred-thousandths	.12345	12,345/100,000
6 places = millionths	.123456	123,456/1,000,000

NOTES:

1. When writing numbers, a comma is used to separate hundreds from thousands and thousands from millions. Example: 12,125 2,305,076.
   This makes a large number easier to read. It is not wrong to write the number without the commas and, when using a calculator, commas are not used.

2. The number of decimal places equals (=) number of zeros in the denominator.
   Example: .453 has 3 places and may be written as 453/1000
   .06 has 2 places and may be written as 6/100
   .8 has 1 place and may be written as 8/10

3. At Schneider you work mainly with thousandths (3 places).

4. A hyphen (-) is used when writing numbers such as 25 twenty-five or
   .0085 eighty-five ten-thousandths

Reading and Writing Decimals

Decimal	Number	Place Value	Read As
.5	5	tenths	5 tenths
.03	3	hundredths	3 hundredths
.15	15	hundredths	15 hundredths
.004	4	thousandths	4 thousandths
.120	120	thousandths	120 thousandths

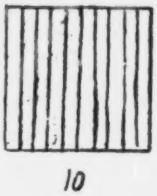
Fill in the missing information on the following grid:

Decimal	Number	Place Value	Read As
.3			
	5	hundredths	
			14 thousandths
.024			
			45 hundredths
.115			
			75 thousandths
	8	tenths	
.310			
	15	thousandths	

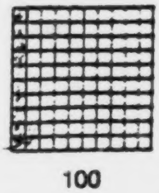
Drawing Decimal Numbers

A decimal number represents a part of a whole that has been divided into tenths, hundredths, or thousandths. On the following figures, color in the part represented by the decimal.

Example: .5

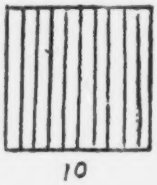


.12



EXERCISES:

.2



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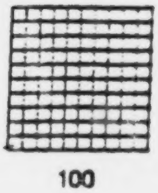
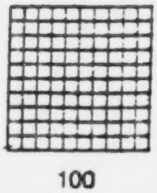
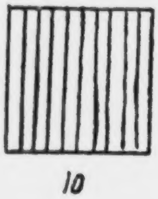


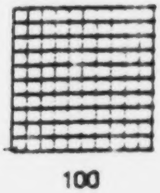
.08



.6

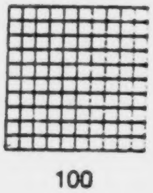


.20



.080

.02



Are any the same? Draw a line connecting them.

Decimal Place Value

Decimal	Number of Places
tenths	one place
hundredths	two places
thousandths	three places
ten-thousandths	four places

Oral (say the number aloud):

1) .7

2) .15

3).008

4) .125

5) 4.73

6) 35.160

7) .55

8) 153.635

9) 1.015

10) 17.357

Written

1) .005 ______________________________

2) .165 ______________________________

3) .270 ______________________________

4) .45 ______________________________

5) .170 ______________________________

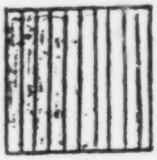
Zeros in Numbers

Zero is often used as a place holder in a number.

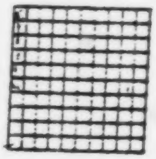
Number	Hundreds	Tens	Ones
22 means		2	2
220 means	2	2	0 (zero holds the ones place)
13 means		1	3
103 means	1	0	3

Zeros are also used as place holders in decimal numbers.

.6 means 6/10 or



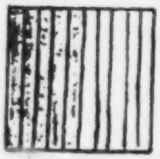
.06 mean 6/100 or



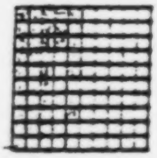
This zero is between the decimal point and the number. The zero holds the 6 to the hundredths place. This zero is necessary.

A zero that is added to the end of a number changes how the number looks and is read, but it does not change the value of the number.

.5 means 5/10 or



.50 means ~~5~~ 50/100 or



You can see on the diagram that the shaded area is the same. Zeros added to the end of a decimal are not necessary but may be useful. Tolerances are always written as + or - thousandths.

Example: .070 + .003
The zero after the 7 is not necessary, but it makes the numbers easier to line up an add.

Whole Number and Mixed Numbers

A whole number is usually written without a decimal point. If a decimal point were added, it should follow the whole number and zeros could be added after the decimal point.

Examples: 7 = 7.0 or 7.00
52 = 52.0 or 52.00

The decimal point separates whole numbers from decimal fractions. A mixed numer is made up of a whole number and a decimal.

Examples: 3.15 = 3 and 15 hundredths

10.006 = 10 and 6 thousandths
(Note the zeros are used as place holders)

54.8 = 54 and 8 tenths

The decimal point (.) is read and as "and."

Practice exercises:

Write the following numbers:

Fifteen and twenty-five thousandths ________________
Two hundred five and three tenths ________________
Four and eight hundreths ________________
One and twelve thousandths ________________

Read the following numbers and then write in words.

5.012 ____
30.7 ____
400.35 ____
104.090 ____

Writing Decimals

♦ A co-worker is dictating (saying) the following number to you. Circle the correct number:

1. "The length is two-hundredths of an inch"

   .2 .02 .002

2. "The gauge reads fifteen thousandths of a pound"

   1.5 .15 .015

3. "Your charge is twenty-three cents"

   $.23 $.023 $2.30

4. "The fm measures three thousandths of an inch width"

   .300 .030 .003

5. "The width of the package seal must be two hundred thousandths of an inch"

   .020 .002 .200

6. "The tolerance is plus or minus fifty thousandths"

   ± .50 ± .050 ± .005

7. "The diameter is one hundred three thousandths of an inch"

   .103 .130 .301

8. "The tip is one and twenty-five hundredths"

   .125 1.025 1.25

9. "I worked eight and one-half hours today"

   8.5 8.05 8.30

10. "The wall thickness must be a minimum of thirteen thousandths of an inch"

    .13 .013 .130

Writing Decimals

- Ranking means putting in order from smallest to largest or from largest to smallest. It is easy to compare decimals that have the same place value to determine which is larger.

Example: .15 and .35
Since both are hundredths, it is easy to see that .35 is larger.

- If decimals do not have the same place value, add zeros after the number until they do have the same place value; then compare and rank (you may want to write them in vertical order).

Example: .303 and .33

.303	.303	303 thousandths
.33 – add 1 zero	.330	330 thousandths

Now you can see that .330 is larger.

- You may add as many zeros as you need.

Example: .5 .05 .055 .505

.5	Add 2 zeros	.500	500 thousandths
.05	Add 1 zero	.050	50 thousandths
.055	Do not add zero	.055	55 thousandths
.505	Do not add zero	.505	505 thousandths

Rank from smallest to largest: .505, .5, .055, .05

Ranking Decimals

- Add zeros so all numbers have equal decimal places.

Circle largest number:

1) .9 .99 .909

2) .328 .33 .303

- Arrange the following lists of numbers in order from smallest to largest:

3) .082 .82 .8 .08 ______________________

4) .106 .16 .061 .016 ______________________

5) .4 .405 .45 .045 ______________________

- Does a number come between two other numbers? (Circle Yes or No)

6) Does .015 come between .010 and .020? YES/NO

7) Does .075 come between .100 and .070? YES/NO

8) Does .250 come between .200 and .225? YES/NO

Decimal Ordering/Comparing

1) Circle which of the following is less than .050:

.049
.055
.090
.062
.40
.046
.009
.089
.037
.70

2) Circle which of the following is more than .200 but also less than .250:

.256
.205
.219
.201
.21
.022
.260
.197
.237
.251
.2705
.24

3) List 3 particle sizes less than .050:

____

____

____

Rounding Decimals

If you go to a store with $20 to spend and you buy items for $5.20, $1.89, $.92, $3.49, and $1.16, will you have enough money? To answer this question, we often round the numbers to be added so that we can estimate the answer. It is not necessary to have the exact total.

Example:

$5.20 round to $5.00
$1.89 round to $2.00
$ .92 round to $1.00
$3.49 round to $3.50
$1.16 round to $1.00
Total: $12.50

Our answer is, "Yes,I have enough money."

- When calculating with decimals, the answer may be more accurate (that means that it may have more decimal places) than is needed. To round the answer to a certain given place value, use the following steps:

1. Underline the number in the place you are rounding to.

2. Look at the number to the right of the underlined digit --

    a) If this number is 5 or more, add 1 to the underlined digit;

    b) If this number is less than 5, leave the underlined digit as is.

3. Drop all numbers to the right of the underlined digit.

Example: Round .04863 to the nearest thousandths.

.04863

Step 1: $.04\underline{8}63$
Step 2: $.04\underline{8}63$
$.04\underline{9}63$ 6 > 5 so change 8 to 9
Step 3: .049

Answer: .049

Rounding Decimals

Rule (please write in your own words):

____

____

____

____

- Round to the nearest **tenth**:

3.56 __________

4.14 __________

3.728 __________

15.04 __________

24.09 __________

53.65 __________

3.762 __________

0.912 __________

- Round to the nearest **hundredth**:

8.005 __________

17.096 __________

0.109 __________

12.736 __________

24.193 __________

4.267 __________

5.995 __________

6.791 __________

- Round to the nearest **thousandth**:

4.7835 __________

5.2731 __________

10.7839 __________

5.6273 __________

53.0009 __________

0.1256 __________

0.0891 __________

15.0995 __________

SCHNEIDER

SKILLS ENHANCEMENT PROGRAM

DECIMALS

Unit II

Pre-Test -- Decimals Unit Two

DO NOT use a calculator, show all work

- **Solve each problem:**

1) 18 - .32 =

2) .6 + .7 =

3) What is the sum of 17.3 and 0.827?

4) Find the difference between.325 and .5

5) Add 12.3, 4.75, and 0.627

6) Take .095 from 4

7) 3 - .68

8) 8 + .73 + .626

- **The process sheet says: only accept a length of 0.170" ± .005"**

9) What is the maximum length? __________

10) What is the minimum length? __________

11) A specific dimension of a bodystock for a 12 STD catheter is listed at .115" with a tolerance of ± .025". You measure the dimension at 0.085". Is it acceptable?
Circle: yes/no

---

12) 0.020 x 0.030 =

13) 5 x 4.75 =

14) Divide .04 by 0.08 =

[illegible]5) .168 ÷ 2 =

16) Multiply 0.04 by 0.02

17) .03 goes into 90 how many times?

18) Find the quotient of 5 divided by ~~.075~~ .025

19) $8.50 x 35.5 =

Decimals - Unit Two

Decimal fractions are used extensively in the workforce and in consumer life. What is the most common use of decimals? If you guessed "MONEY," you're correct. When adding or subtracting decimal fractions, think of money.

Rules for Adding Decimals

1) Line up decimals point under point.
2) Add zeros (0) in the empty columns to keep digits in line.
3) Add each column and bring down the decimal point straight into the answer.

Example 1: Find the sum of 3.8, 52, .075, and 1.2

$$\begin{array}{r} 3.8 \\ 52. \\ .075 \\ +\ 1.2 \\ \hline \end{array} \qquad\qquad \begin{array}{r} 3.800 \\ 52.000 \\ .075 \\ +\ 1.200 \\ \hline 57.075 \end{array}$$

Notice that the whole number 52 is "understood" to have a decimal point immediately to the right, even though it was not written in the problem. (Think of \$52 ⇒ \$52.00)

Rules for Substracting Decimals

1) Use zeros to give each number the same amount of decimal places.
2) Put the larger number on top. Line up numbers with point under point.
3) Subtract (borrow if needed). Bring decimal point straight down.

Example 2:

$$\begin{array}{r} 15.3 \\ -\ .007 \\ \hline \end{array} \qquad\qquad \begin{array}{r} 15.300 \\ -\ .007 \\ \hline 15.293 \end{array}$$

Example 3:

$$\begin{array}{r} 28 \\ -\ 4.83 \\ \hline \end{array} \qquad\qquad \begin{array}{r} 28.00 \\ -\ 4.83 \\ \hline 23.17 \end{array}$$

Decimal Exercises: Solve Each Problem

1) .5 + .8 =

2) .83 + .6 =

3) 16 + 4.3 + .08 =

4) .372 + 11 + .05 =

5) 1.7 + 2.05 =

6) .150 + .025 =

7) 9 + .75 + 1.207 =

8) .8 - .26 =

9) 18 - .75 =

10) .2 - .037 =

11) 5 - .505

12) .095 - .003 =

13) 3.5 - .005

14) .070 - .003 =

15) Take .075 from .3

16) Find the total of 17.5, .072, and 21.8

17) Find the difference between .475 and .7

18) Find the sum of 2.75 and 17.3

19) How much more is $45 compared to $13.75?

20) Rewrite in your own words the fule for adding and subtracting decimals:

Calculator Computations

◆ When adding decimals on a calculator:

- Make sure display and memory are cleared;
- Enter numbers to be added, press + between each number;
- Press = only after entering last number.

HINT: *Make sure you enter all numbers correctly -- double check display. Try using the eraser part of your pencil if your fingers constantly strike the wrong keys.*

Example 1:

0.175 + 0.005 + 2.870

Press Keys:	Calculator Displays
C	0.
.175	0.175
+	0.175
.005	0.005
+	0.18*
2.870	2.870
=	3.05

HINT: *Notice + does not appear in display. Calculator does a * subtotal.*

◆ When subtracting decimals on a calculator:

- Enter largest number first, then press -;
- Enter number to be subtracted;
- Press = only after final number is entered.

Example 2: At work you grind 0.015 inches off a 1.750 inch piece of pipe. Then you grind off another piece 0.007 inches; what is the size of the remaining pipe?

To solve: 1.750 - 0.015 - 0.007

Press Keys:	Calculator Displays
C	0.
1.750	1.75
-	1.75
0.015	1.735
-	1.735
0.007	0.007
=	1.728

HINT: *A calculator does not display zeros to the right of a number after the decimal point. You may write or enter into the calculator 1.750 but the display will read 1.75.*

HINT: *If in a subtraction, you accidentally enter the smaller number first, your calculator will display a minus sing next to the answer.*

Answer: The pipe is 1.728 inches.

Practice the Following Using a Calculator

1) 1.75 + 2.835 =

2) .075 + .025 =

3) .250 - .050 =

4) .770 - .060 =

5) .085 + .015 + .005 =

6) .053 + .002 =

7) 2.753 + 3.827 =

8) .070 - .003 =

(5)

Tolerance - Decimals

Tolerance is the range of acceptable dimensions (size) for a certain part. The upper limit, or maximum, is the largest size that part can measure. The lower limit, or minimum is the smallest size possible before the part is rejected.

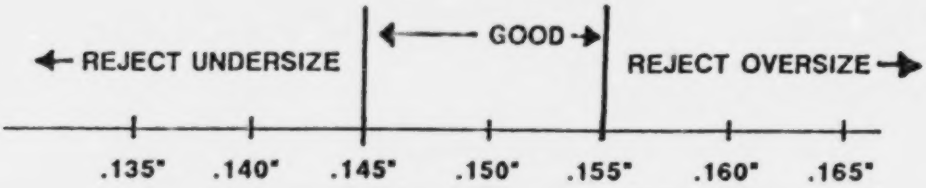
For example: If the Manufacturing Process specifies that a dimension be .150" ± .005", then the tolerance range would be .145" to .155".

Upper limit or maximum: ADD tolerance to specification:

$$\begin{array}{r} .150'' \\ \underline{+\ .005} \\ .155'' \end{array}$$

Lower limit or minimum: subtract tolerance from specification

$$\begin{array}{r} .150'' \\ \underline{-\ .005} \\ .145'' \end{array}$$



In this example, a part would only be acceptable is the size measured between .145" and .155".

Tolerance - Worksheet 1

Given the following data about five fictitious catheters, are the products within tolerance range? Cirlce one: Yes/No

Data:	Diameter
3 FR HF	.044 ± .001
7 FR HF	.072 ± .001
10 SF Guiding	.081 ± .001
11 SF Guiding	.106 ± .001
9 FR Superflow	.063 ± .001

HINT: *It may be helpful to first calculate maximums and minimums, then compare to the part you are working on to determine if it falls within tolerance range.*

		Diameter	
(1)	3 FR HF	.046	Yes/No
		.045	Yes/No
		.043	Yes/No
		.430	Yes/No
(2)	7 FR HF	.071	Yes/No
		.730	Yes/No
		.074	Yes/No
		.070	Yes/No
(3)	10 SF Guiding	.810	Yes/No
		.080	Yes/No
		.083	Yes/No
		.082	Yes/No
(4)	11 SF Guiding	.115	Yes/No
		.106	Yes/No
		.107	Yes/No
		.150	Yes/No
(5)	9 FR Superflow	.065	Yes/No
		.066	Yes/No
		.640	Yes/No
		.064	Yes/No

Tolerance - Worksheet 2

Given the following data below in TABLE 1 on a fictitious bodystock tapering, would the bodystocks listed be acceptable? Circle one: Yes/No

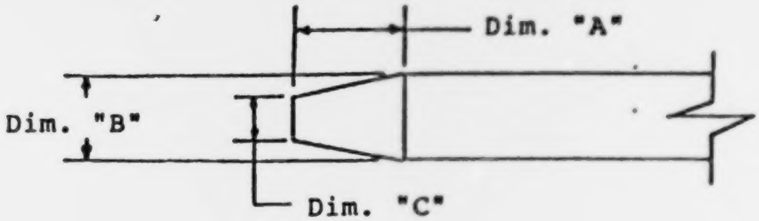


TABLE 1

FRENCH SIZE	DIM "A" ± .015	DIM "B" ± .002	DIM "C" ± .004
1 HF	.125	.083	.050
2 HF	.170	.072	.060
4 STD	.155	.113	.065
11 HF	.150	.112	.070
12 STD	.160	.089	.085
13 HF	.155	.123	.090

(1)	1 HF	Dim "B"	.081	Yes/No
		Dim "B"	.840	Yes/No
		Dim "B"	.085	Yes/No
(2)	4 STD	Dim "A"	.145	Yes/No
		Dim "A"	.175	Yes/No
		Dim "A"	.135	Yes/No
		Dim "A"	.160	Yes/No
(3)	2 HF	Dim "C"	.640	Yes/No
		Dim "C"	.066	Yes/No
		Dim "C"	.056	Yes/No
		Dim "C"	.580	Yes/No
(4)	12 STD	Dim "B"	.091	Yes/No
		Dim "B"	.900	Yes/No
		Dim "B"	.088	Yes/No
(5)	11 HF	Dim "A"	.134	Yes/No
		Dim "B"	.122	Yes/No
		Dim "C"	.067	Yes/No

(6) Is the following catheter acceptable? Yes/No

13 HF	Dim "A"	.170
	Dim "B"	.121
	Dim "C"	.860

Multiplying Decimals

Example 1: Jack bought 5 cans of tennis balls at $2.49 a can. To find the total price, multiply the price of one can by 5.

$ 2.49
x 5
$12.45

Notice we had 2 decimal places (numbers to the right of the decimal point) in the entire multiplication problem, as well as 2 decimal places in the answer.

Example 2:

Using his eyepiece, John measured the length of FM (foreign material) to be .020" and the width .015". He knew area was length x width.

.020 ← 3 decimal places
x .015 ← 3 decimal places
100
020
.000300 ← 6 decimal places
(add zeros to left)

Area of FM = 0.0003 square inches or 0.0003 in^2

Rules for Multiplying Decimals

1) Place the longer (not the necessarily larger) number on the top.
2) Put other number underneath - lining up numbers on right side. You do not have to have decimals in line.
3) Multiply.
4) Count number of decimal places in both numbers you multiplied.
5) In answer, count from the right, so you have the same number of decimal places as you had in the entire problem.
6) Add zeros (between the decimal point and numbers) if you do not have enough places in the answer.

Example 3: Multiply .4 and 4.27

4.27 ← 2 places
x .4 ← 1 place
1.708 ← 3 places

Example 4: Multiply 0.02 and 0.03

0.02
x 0.03
> 4 places
0.0006 ← 4 places

Decimals - Multiply Practice Exercises

1) 450 x .05 =

2) 213 x .04 =

3) 0.02 x 0.02 =

4) 15.2 x .003 =

5) .075 x 13 =

6) .6 x .5 =

7) 175 x .08 =

8) 34.8 x .10 =

9) .927 x .05 =

10) 723 x .02 =

Dividing Decimals

Example 1: Kristen earned $24.72 in tips working for 6 hours. To calculate her average tips per hour, she would divide $24.72 by 6:

$$\begin{array}{rl} \$4.12 & \leftarrow \text{Quotient} \\ 6\,\overline{)24.72} & \leftarrow \text{Dividend} \end{array}$$

Example 2: Bert Evans wanted to figure how many miles per gallon he was averaging on his new car. His odometer showed that he drove 208.25 miles; he used 8.5 gallons of gas.

$$\text{Miles per gallon} = \frac{\text{miles driven}}{\text{Gallons used}}$$

$$\begin{array}{rl} \$24.5 & \leftarrow \text{miles per gallon} \\ 8.5\,\overline{)208.25} & \\ \underline{170} & \\ 382 & \\ \underline{340} & \\ 425 & \\ -\underline{425} & \end{array}$$

> **Rules for Dividing Decimals**
>
> 1) Make sure divisor is a whole number. If it is, move decimal point in dividend straight up into quotient (see examples).
>
> 2) If the divisor is a decimal, move the point as far as possible to the right.
>
> 3) Move the decimal point in the dividend the "same number of places as you did in the divisor. You may need to add zeros (example 2).
>
> 4) Bring the decimal point into the quotient directly above new point in dividend.

Example 3: 75 ÷ .05

$$\begin{array}{r} 1500. \\ .05\,\overline{)75.00} \\ \underline{5} \\ 25 \\ \underline{-\ 25} \\ 0 \end{array}$$

HINT: *Every whole number has a decimal point "understood" to be in back of the number. Add decimal point and as many zeros as needed.*

Answer: 1,500

Exercises - Dividing Decimals

1) $.04\overline{).8}$

2) $3.5\overline{)329.7}$

3) $4 \div .05$

4) $6\overline{)25.338}$

5) $64.2 \div .002$

6) Divide 5.15 by .5

7) $27 \div .03$

8) $4.5\overline{)3.24}$

9) $6.7 \div .134$

10) Divide .8 by .04

11) $.14\overline{)98}$

12) $3.75 \div 25$

(12)

Calculator Computations

♦ When **multiplying** decimals on a calculator:

- Enter any number given (order is not important in multiplying or adding).
- Press x after each number.
- Press = for final answer.

Example: On Saturday, Sally worked 4.5 hours of overtime. Her overtime rate is 1.5 times her regular rate of $7.80 per hour. What did Sally earn on Saturday? Total earning ⇒ $7.80 x 1.5 x 4.5

Press Keys:	Calculator Displays
C	0.
7.80	7.80
x	7.8
1.5	1.5
x	11.7
4.5	4.5
=	52.65

Answer: $52.65

♦ When **dividing** decimals on a calculator:

- You must enter decimals in correct order.
- Enter dividend (what it is you're dividing) first, then press ÷;
- Enter divisor, then =.

Example: There are 2.54 centimeters (cm) in one inch. How many inches are there in 12.7 cm?

Solve: 12.7 ÷ 2.54

Press Keys:	Calculator Displays
C	0.
12.7	12.7
÷	12.7
2.54	2.54
=	5.

Answer: 5 inches

HINT: A calculator continues the division until there is no remainder, or the display is full. You may have to use some rounding. (sse Decimals Unit 1 for help)

Exercises: (use a calculator)

1) 0.03 x 0.02

2) 27.8 x 4.12

3) $8\overline{).648}$

4) 2.4 ÷ 40

5) 2.3 x 5 x 1.2

6) $2.4\overline{)0.0864}$

7) What is .405 divided by 25?

8) 5.3 x 0.120

9) 15 ÷ .03

10) What is the quotient of 12 divided by 0.002?

11) 1.75 x .033

12) $3.6\overline{)295.2}$

Answers - Decimals - Unit TWO

Pre-Test.

1) 17.68 2) 1.3 3) 18.127 4.) 0.175

5) 17.677 6) 3.905 7.) 2.32 8.) 9.356

9.) 0.175" 10.) 0.165" 11.) NO

12.) 0.0006 13) 23.75 14.) 0.5 15.) 0.084

16.) 0.0008 17.) 3000 18) 200 19.) $301.75

ge 3.

1) 1.3 2) 1.43 3) 20.38 4.) 11.422 5.) 3.75

6.) 0.175 7.) 10.957 8) 0.54 9.) 17.25 10.) 0.163

11.) 4.495 12.) 0.092 13.) 3.495 14.) 0.067 15.) 0.225

16.) 39.372 17.) 0.225 18.) 20.05 19.) $31.25

Page 5.

1.) 4.585 2.) 0.1 3.) 0.2 4.) 0.71

5.) 0.105 6.) 0.055 7.) 6.58 8.) 0.067

Page 7

1.) N-y-y-N　　2) y-N-N-N　　3) N-y-N-y

4.) N-y-y-N　　5.) N-N-N-y

Page 8

(1) y-N-y　　2.) y-N-N-y　　3) N-N-y-N

4.) y-N-y　　5.) N-N-y　　6) N

Page 10

1). 22.5　　2.) 8.52　　3.) 0.0004　　4.) 0.0456

5.) 0.975　　6.) 0.3　　7) 14　　8.) 3.48　　9.) 0.04635　　10.) 14.46

Page 12

1.) 20　　2) 94.2　　3.) 80　　4.) 4.223　　5.) 32,100

6) 10.3　　7) 900　　8) 0.72　　9) 50

10.) 20　　11.) 700　　12.) 0.15

Page 14

1.) 0.0006　　2) 114.536　　3.) 0.081　　4.) 0.06

5.) 13.8　　6.) 0.036　　7.) 0.0162　　8.) 3.3708

9.) 500　　10.) 500　　11.) 0.05775　　12.) 82

Please Highlight any areas in the packet on Decimals that are not clearly written.

Evaluation of Decimal Units:

1. Which packet/unit did you review? ____________________

2. Was the unit (in general) clearly written? (circle one)

   not at all - somewhat - most of it - all of it

3. Was the packet helpful for your work here at Schneider? (circle one)

   not at all - somewhat - most of it - all of it

4. Would you prefer to: (check one or more)

   _______ work on packet at home

   _______ work on at Schneider during any down time

   _______ not do at all

   _______ consult with a teacher while doing units

5. What part of the unit on decimals did you find:

   Most valuable? ________________________________

   Least valuable? ________________________________

6. Suggestions for changes or additions in the decimal unit:

   ____

   ____

   ____

7. Comments:

7-29-92 Small Group Evaluation on Decimal Units

General Comments from employees who did the decimal units:

- Maybe add a vocabulary or a list of definitions
- "English is too difficult for me to do alone. Math is okay but English is hard."
- "It refreshed my skills."
- "I had more confidence."
- "I like little packets vs. books."
- "Kind of Fun!"
- "I especially liked the tolerance section."
- Benefits- what we do rotely, we can now understand.
- Suggested many employees do the same - introduce packets in small groups - let employees do packet as an option but offer the units to all employees.
- Did not think packets should be in cafeteria because no one would pick them up then since it would indicate that the employee was having a math problem. Offering it to everyone in small groups would eliminate this situation.
- "I would like more units to do."
- Some would have liked to refresh their decimals before they had attended SPC training.
- Half the employees indicated that they would like a teacher or knowledgeable person available to ask questions while they work on this unit.

Note: Employees were given the choice of working on Decimal Unit I or II. All employees in the group wanted to do both units - at home or in any down time at Schneider.

MATH AT WORK TEAM
Closure Report
June 10, 1991 - August 9, 1991
Rose Lawson and Nancy Palmer
Math Instructors

SUMMARY OF ACTIVITIES:

- Orientation with Pam Streiff (tour, Microsoft)
- Meetings/discussions with managers and supervisors to identify Math at Work Team participants and needs assessment
- Observations of participants at work in clean room and guiding factory
- Development of employee questionnaire, outline for introductory class, math pre-assessment
- Introductory class: brainstorming session on math used on the job, questionnaire, pre-assessment
- Organization of class groups and curriculum based on needs assessments and in-put from participants and supervisors
- Classes: Monday 2:00 - 3:30 PM/ 2 groups/ 9 employees
  Wednesday 2:00 - 3:30 PM/ 2 groups/ 8 employees
  Total instructional hours per class - 10.5 hours
  Class attendance: 84.4%
- Curriculum development: continued information gathering from process sheets and input from supervisors, engineers, group leaders, and employees
- Questionnaire to all supervisors and group leaders on math applications on the job
- Development of lesson plans, worksheets, and post-assessment
- Re-evaluation (on-going) of needs, lessons, etc.
- Time allotment for math team teachers: Staff meetings - 21 hours; Instructional hours - 21 hours; Related activities (see Summary of Activities) - 88 hours.

FINDINGS/RECOMMENDATIONS:

- * Process Sheets: Many of the process sheets are not written at a level compatible to the skills of the production worker. If the process sheets are to be used by production workers, not only engineers, then these sheets should be written with clearer language and more common vocabulary (math terminology included).

- * Skill Level: Supervisors, engineers, and group leaders sometimes assume all workers have a certain competency level in mathematics - this assumption can be erroneous.

- * Math Thinking Skills: a calculator cannot do all math skills. Certain thinking skills in math sometimes have to be taught; such as estimating, rounding, comparing decimals, and problem solving.

- * Pre-assessment results: random group of 17 employees, not identified as needing math skills refresher.
  Scores ranged from 4 - 88%. Mean score = 54.5%

- * Post-assessment results: instructional time for entire course was 10.5 hours or less; individual skill level varied considerably.
  Scores 12-88% mean: 67.8%

- * Calculators: should be more accessible in the factory or included in employees supply box. If used, calculators would reduce math errors on the TCF and other forms.

- * Eye-piece: design a new template for the eye-piece eliminating all unnecessary lines and measurements. Results from brainstorming, questionnaires, and discussions indicated this was a confusing tool and often misused.

- * Resource library and drop in center for math help: available not only to those employees enrolled in a math class, but for any worker having difficulty with a math skill used on the job or questions from SPC training.

- * Pre-SPC Math refresher: about 25% of the random math team were very uncomfortable with their math abilities and would benefit from a math refresher before they participate in SPC training - this should be an option for all employees.

- * SPC Manual: not written at a level appropriate for all employees - vocabulary too difficult and some math formulas are not consistent throughout the manual. (Some specific recommendations on the SPC manual available on request.)

SUGGESTIONS for MATH CLASSES:

- Recruitment: (1) Advertise class on bulletin board, in newsletter, through supervisors and group leaders. (2) Informal interviewconducted by math teacher with interested employees before they decide on a class. (3) Pre-assess math skills with math teacher or counselor prior to first class.

- Types of Math Classes: (1) MATH REFRESHER - Group 1 - for those employees who have a good basic understanding of math concepts and do not mind a faster paced class. Course covers basic math skills listed in curriculum below and also includes problem solving in job specific areas such as, eye-piece, $\bar{X}$ and R charts, micrometer, caliper, etc. (2) BASIC MATH CLASS - Group 2 - for those employees who feel math anxiety or lack basic math skills. Course will cover basic math skills listed below with more emphasis on drill and practice, estimation, use of calculator, and critical thinking. Group 2 meets for twice the time length of Group 1.

- Structure of Math Classes: Group 1 - 1 hour sessions twice a week for 6 weeks. Group 2 - 1 hour sessions twice a week for 12 weeks.

- Curriculum: Topic areas would include whole numbers, math terminology, calculator use, time measurement, fractions, decimals, percents, measurements using tools and gauges, graphs and charts, geometry, critical thinking, estimation, and problem solving. (Course outline is available.)

- Equipment: (1) Calculators should be available for classroom use. (2) Tools, such as eye-piece, micrometer, etc., should be provided for classroom use. (3) Basic math workbooks should be supplied for every student for extra at-home practice.

BASIC MATH
Course outline
Group 2

- Math terminology - language of basic operations
- Calculator use (on-going)
- Wholes:
  - add
  - subtract
  - multiply
  - divide

  Basic Skills used on TCF and other forms
- Decimals:
  - place value/comparing
  - estimation
  - addition/subtraction
  - multiplication/division
  - rounding
  - problem solving: tolerance, charts
- Statistical Terms: mean/median/mode/range
- Charts/Graphs/Tables:
  - reading from process sheets
  - graphs posted in work area
  - X and R charts
- Percents:
  - changing % to decimal/decimal to %
  - finding the number of parts (ADL)
  - finding the percent
- Equivalent fractions:
  - relate to decimals
  - compare fractions
  - problem solving - eye-piece, shims
- Eye-piece: reading measurements for FM
- Geometry:
  - area of rectangle (FM)
  - angles, degrees, terminology
- Time:
  - time calculations on work floor
  - time cards

MATH REFRESHER
Course Outline
Group 1

- Math terminology- language of basic operations
- Whole numbers- TCF forms,etc.
- Time- time cards
  - drying time
  - reading dates for calibration
- Calculator use
- Fractions- add/subtract/multiply/divide review
  - equivalent forms and ordering
- Decimals- add/subtract/multiply/divide review
  - comparing/rounding
  - tolerances
- Eye-piece- reading measurements for fm
- Percents- find number of parts when % given
  - find percent when number of parts given
- Statistical terms-mean,median,mode, range
- $\overline{X}$ and R charts,standard deviation, formulas from SPC
- Geometry- angles,degree measurement, terminology
  - area for figuring fm
- Algebra- signed numbers
  - algebraic expressions
  - linear equations

FALL CALENDAR Classes meet weeks of:

OCTOBER

Monday	Tuesday	Wednesday	Thursday	Friday
14	15	16	17	18
21	22	23	24	25
28	29	30	31	1

NOVEMBER

Monday	Tuesday	Wednesday	Thursday	Friday
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
Thanks	giving	Week	No	Class

DECEMBER

Monday	Tuesday	Wednesday	Thursday	Friday
2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
Holiday	No	Class	No	Class

JANUARY

Monday	Tuesday	Wednesday	Thursday	Friday
Holiday	No	Class	No	Class
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24

Math classes meet for an hour twice per week for twelve weeks.

English classes meet for an hour and a half twice per week for twelve weeks.

Classes are scheduled in Training Classroom B.

MATH AT WORK

uses specific math-at-work situations to help refresh or build basic math skills. Classes are based on the needs of class participants, and may include such topics as:

- whole numbers
- decimals
- percents
- rounding
- measurement
- reading graphs
- figuring area
- mean/median/mode
- SPC forms
- word problems

ENGLISH AS A SECOND LANGUAGE (ESL)

studies and practices communication skills in specific work situations where employees need to be effective. Topics may include the following and are based on the needs of class participants:

- English grammar
- idioms
- vocabulary
- pronunciation
- reading skills
- writing skills
- listening skills
- asking questions
- understanding memos

The Development Counselors will accept applications and answer questions about the program, then interview and assess applicants to determine appropriate course content and class size.

Call Martha Homme
or
Mary Gallagher
at extension 5712.

BEST COPY AVAILABLE

Fall 1991 Skills Enhancement Program Application

NAME______________________________

EMPLOYEE #__________

SCHNEIDER EXTENSION #_________

CURRENT POSITION________________

FOCUSED FACTORY________________

SUPERVISOR______________________

I am interested in the Skills Enhancement Program class(es):

___ Math at Work

___ English as a Second Language

___ Communication Skills at Work
  ____reading
  ____writing
  ____speaking
  ____listening

My ideas for classes: ________________
____
____

BRING this application to Martha Homme or Mary Gallagher in the Skills Enhancement Office (next to Steve Showalter's office in the Production Supervisors' area) by SEPTEMBER 30.

SIGN UP for an interview--a sign-up sheet is posted on the teachers' door.

Training Opportunity: Skills Enhancement

In April 1990, Schneider Employee Development received a grant from the Federal Department of Education to conduct a model Workplace Skills Enhancement Program.

Pam Streiff, Schneider Manufacturing Training Center Supervisor, and Teachers from the Robbinsdale Adult Academic Program have worked with Schneider employees to create this job-related skill training. The first two courses developed were ENGLISH AS A SECOND LANGUAGE and MATH AT WORK.

The **SKILLS ENHANCEMENT** Program can help employees improve important job skills such as communication, listening, speaking, reading, writing, grammar, math, and English as a Second Language. Teachers provide **confidential** educational support and skills practice, and help employees develop Personal Education Plans (PEPs). PEPs will enable employees to set and work to achieve development goals. Schneider pays for all program materials, and employees attend classes during regular (paid) work hours.

FALL CLASSES START IN OCTOBER!

Interested employees should sign-up by September 30!

BEST COPY AVAILABLE

SKILLS ENHANCEMENT
ESL
SUMMER PROGRAM
June 10, 1991 - August 8, 1991
Irene Kaplan - Darlene Hetland, Instructors

- Two class sections were offered for each the first and second shift. Students were grouped according to performance on the STEL, interviews with the counselor, and teacher evaluation.

- Classes were held on Mondays and Wednesdays. First shift classes met from 1:45 to 3:15. Second shift classes met from 3:45 to 5:15. There were sixteen 1.5 hour classes with a total of 24 hours of instructional time per class section.

- Forty-two employees were served in the classes and were evenly divided into the four class groups. Attendance percentages were:

  Training Room A, First Shift - 93%
  (Two students did not complete the entire class because of birth of children.)
  Training Room A, Second Shift - 96%
  Training Room B, First Shift - 96%
  Training Room B, Second Shift -94%
  (One student did not complete the class because of an extended vacation.)

  Reasons for absence included vacation days, death in family, the necessity to attend JIT Training classes, and illness.

- The teachers, Irene Kaplan and Darlene Hetland, worked as a team to develop work-related curriculum for the classes. Time was spent observing production activities, communicating with group leaders and supervisors, and team building with the development counselor, math teachers and Schneider training specialists. Irene Kaplan was employed on site 19 hours per week for eight weeks. Darlene Hetland was employed 15.5 hours per week for eight weeks. (Irene Kaplan's additional hours were designed for long-range planning with the development counselor, Martha Homme.)

The established goal was to use work-related, job-specific materials for the teaching tools. Schneider personnel were extremely cooperative in giving the teachers access to documents used in the production of the product as well as forms for medical benefits, etc. A listening/speaking textbook, Sound Advice, A Basis for Listening, Stacy A Hagen, Prentice Hall Regents, was purchased for each student. All other materials were developed by the teachers specifically for Schneider employees to practice the four elements of language skill development: listening, speaking, reading, and writing.

- LISTENING
    - linked and reduced sounds in English
    - emphasized difference between spoken and written language

- SPEAKING
    - pronunciation of vocabulary from process sheets
    - polite openers for conversation
    - stating a problem on the job
    - asking questions
    - asking for assistance
    - verification of understanding
    - problem solving
    - formulating "I messages" to be used with co-workers and supervisors
    - generating and practicing dialogues from actual job situations

- READING
    - approach and method for reading process sheets
        - skimming
        - envisioning task
        - looking for cautions - what could go wrong
        - reading carefully for exact information
        - reading figures, diagrams, tables, etc.
        - paying attention to product quality - verifying
    - drawing inferences
    - thinking logically
    - looking for sequence
    - vocabulary development

- WRITING
    - work sheets with matching, multiple choice, short answer
    - documenting appropriate information
        - tags
        - parts cleaning labels
        - benefits forms
    - writing to a target audience expressing perceived outcomes of the classes and future needs.

EVALUATION

- Employees expressed appreciation for the opportunity to improve their English skills during work time. Many would not be able to study on their own time because of long work hours, family commitments, etc.

- Positive outcomes reported by students were:

  - less shy - more confident in oral communication in
    - expressing problems
    - asking for help
  - better able to listen to "fast talk"
    - reduced and linked sounds
  - understand process sheets better
    - know more vocabulary
    - how to read
  - know how to fill out Change Application for benefits
  - know more about documenting information on the job

- The eight-week summer session was a short time for a comprehensive course. Students would like two-hour class sessions. A ten or twelve-week course is recommended.

ACTION PLAN

- Inservice interaction for group leaders and supervisors to discuss realistic expectations for learner outcomes in a second language, e.g., pronunciation improves slowly and an accent cannot be eradicated.

- Pronunciation is the most noticeable problem for co-workers and supervisors of those with English as their second language. More emphasis is needed in this area.

- On-the-job visits with employees before curriculum development and after classes have begun would be valuable in determining needs and evaluating progress.

- It would be ideal (however, maybe not workable) to teach process sheets specific to each student before training is complete. There should be an opportunity for questions and a check for mastery.

- Clerical help to do typing, duplicating and filing would allow for teachers to spend valuable time on developing curriculum and lesson plans.

COMMENTS FROM CLOSURE LETTERS THAT STUDENTS WROTE--AUGUST 7, 1991

Students were asked to write a letter expressing what they learned that helped them to become more competent and confident on their jobs. They were also asked to include what they would like to study and learn more about in the future parts of the Skills Enhancement Program. Following are comments from those letters:

- "The most important thing is that we learned how to listen to people when they speak fast."
- " I learned how to do my next job. So I already learned the process before getting into it."
- " We (non-English speakers) don't understand the process so we can't do the job. Now we can read the process sheets."
- " This company is good because it supports an employee who wants to learn some more."
- " I learned how to write dialogues and had fun speaking them on the tape and listening to my voice".
- "What I learned related to my job. I don't need to ask my group leader what to do on the job anymore."
- "I understand how to do the job right, now."
- " I don't have to ask my group leader too many times."
- " I want the company to have a program continuously."
- " Class helps me pronounce the words I need on my job. I don't know the way to talk or discuss with American people. Now I know better than before how to talk. When I talk to supervisors, I feel free to ask and get along with them."
- " I had a hard time to read and understand. Now I feel better with reading a lot of new words that I didn't know before."
- "Sometimes I have a problem on the production floor, but it is hard for me to tell or explain to group leader . Sometimes I don't understand what my group leader said to me. After this class, I don't have so many problems."
- "Thank you ESL class!"

SKILLS ENHANCEMENT

Language Arts

Training Room: A and B

Teacher : Darlene Hetland
Irene Kaplan

Date: June 10, 1991.

Lesson Number: 1

Objectives / Activities:

- To become familiar with the students--their educational background, skills required for present job, and goals.

  Task: to discuss orally and fill out attached questionnaire. As conversation evaluation and practice, they discussed jobs in pairs --what's easy and what's difficult. Each student reported to the class on their partner's comments.

- To practice listening skills and oral production of difficult sound by learning the non-released final consonants (p,t,k,b,d,g) from listening text, Sound Advice

- To understand acronyms used at Schneider. Review commonly used acronyms orally. Provided the attached sheet.

- To introduce the method of closure that will be used in this program, the learning logs. Provided the forms and guided learners in filling them out.

Evaluation:

Learned what students wanted from classes. Students learned about the format of the classes.

Needs assessment for future planning:

For the future ,we are going to have the students bring in their process numbers of their process sheets.

Name:

1. How long have you lived in the U.S.?

2. Did you study English in school before working at Schneider? (Where and for how long?)

3. What process do you work on at Schneider?

4. What is easy for you on the job?

5. What is hard for you on the job?

6. What forms, signs and documents do you read at work?

7. What processes would you like to learn?

8. Why do you want to take the skills enhancement classes?

ACRONYMS GLOSSARY

ADL	Automatic Disposition List
DHR	Device History Record
DMR	Device Master Record
FDA	Food and Drug Administration
FM	Foreign Material
GMP	Good Manufacturing Practices
HEPA	High Efficiency Particle Airfilter
HPG	Hospital Products Group
ID	Inner Diameter
IP	Inspection Process
JIT	Just In Time
LN	Lot Number
MP	Manufacturing Process
MRB	Material Review Board
MSDS	Material Safety Data Sheet
OD	Outer Diameter
OSHA	Occupational Safety and Health Act
PEL	Permissable Exposure Limit
PTCA	Percutaneous Transluminal Coronary Angioplasty
QA	Quality Assurance
QC	Quality Control
SOP	Standard Operating Procedure
SWO	Special Work Order
TCF	Traceability Control Form

LEARNING LOG

Monday , 1991	Wednesday , 1991
Monday , 1991	Wednesday , 1991
Monday , 1991	Wednesday , 1991

KEEP UP THE GOOD WORK!

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B

Teacher : Darlene Hetland
Irene Kaplan

Date : June 12, 1991

Lesson Number: 2.

Objectives / Activities:

- To learn about the Personal Educational Plan (PEP) that each learner will have in the Skills Enhancement Program. Martha Homme, developmental vocational counselor, explained parts of the plan that would be implemented now.

  Task: students will gather information about their jobs and locate the process sheet numbers for the jobs they currently hold at the plant. These sheets will be used for future classroom activities .

- To practice listening and pronunciation skills. Sound Advice --Syllable stress--pp. 4, 5. Practice in groups and individually with audio tapes from the text. Listening for individual pronunciation needs.
- To develop an understanding of how to read a process sheet--techniques and strategies. See following sheet. Read how -- to sheet for gathering information from the process sheets on the job. Discuss the steps in understanding the vocabulary, directions, illustrations and sequences of the process.
- To analyze a process sheet using the strategies explained in the how-to sheet. Port--Punch set up document #820301-001.

Evaluation:

- Wrap up on learning logs of the speaking, listening, reading, and writing activities for the lesson.

Needs assessment for future planning:

- Further vocabulary discussion and worksheets in looking at

  steps in the process.
  Bring in realia (examples--threads--nut and bolt)

Employee: ______________________________ **Focused Factory:** __________

Supervisor: ________________________ **Job Classification:** __________

OPPORTUNITIES FOR IMPROVEMENT

SELF IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

____

____

____

____

____

MANAGEMENT IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

____

____

____

____

____

MANUFACTURING PROCESSES/RESPONSIBILITIES:

Current Job Responsibilities

1.
2.
3.
4.
5.

Next Cross-training Operation(s):

1.
2.
3.

PERSONAL GOALS SUPPORTING IMPROVED EMPLOYABILITY:

1.
2.
3.
4.

. . . . HOW TO READ A PROCESS SHEET

1. Read the whole process sheet quickly --skim.
2. Look for any pictures, charts, or diagrams.
3. Identify parts of graphics--labels, parts, numbers.
4. Identify the sequence of directions. What comes first, second, third, etc.?
5. Picture in your mind what you will do.
6. What's important? What isn't as important?
7. What could go wrong? What should you watch out for? What precautions should you take?
8. Pay attention to the words you don't know.

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B.   Teacher : Darlene Hetland
                                          Irene Kaplan

Date: June 17, 1991   Lesson Number 3.

Objectives / Activities:

- To practice listening and pronunciation skills. Sound Advice Part 3, pp, 6-8--Ellipsis--sounds that are dropped in rapid speech.. Practiced in groups and individually for listening and verbal fluency.

- To read a process sheet--Port Punch set up document. Emphasis on reading for sequential steps, evaluating unknown vocabulary from context, and using knowledge of prefixes like "re, un, pre, ex".

Evaluation:

- Students indicated that they need this specific attention to how to read their process sheets.

Needs assessment for future planning:

Practice sheets will be continued next lesson with an additional emphasis on skimming and scanning techniques to locate information.

VOCABULARY - PROCESS 820301-001
June 17, 1991

1. re- words:
   retract

   remove

   replace

   repeat

2 ex- words:
   extend

   exhibit

3 unscrew

4 clockwise
   counter clockwise

5. adjust
   fine adjust

6. increase
   decrease

7. position--noun and verb

8. rotations

9. with respect to

10. activate

11. flush

12. visa-versa

13. proper orientation

14. connecting words:
   if
   until
   whenever
   once (once the collets have been tightened)
   (once the correct position has been obtained back off one-half turn counter-clockwise.)

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B.

Teacher : Darlene Hetland
Irene Kaplan

Date : June 19, 1991

Lesson Number 4

Objectives / Activities:

- To distinguish reduced words in sentences--articles, pronouns, prepositions, to-be verbs---and to stress important words, such as nouns, verbs, adjectives and adverbs. Used Lesson 1V of Sound Advice.

- To review vocabulary from Port Punch process sheet.

  To practice the new vocabulary and terminology and to be able to transfer.
  example: turn the knob counter- clockwise to increase.
  turn the knob clockwise to ___________.

Evaluation:

- It was difficult for many learners to associate opposites as in the above example.

- "Once", used to mean "when", or "after", as "once you have done this, do that" was new and difficult.

Needs assessment for future planning:

Need to develop exercises and questions that strengthen reasoning and problem-solving skills as well transference of vocabulary to individual's process sheet reading.

VOCABULARY PRACTICE
PROCESS 820301-110
June 17, 1991

1. The punch should not ____________ nicks or burrs.
2. To take out is to ________________.
3. Turn the knob counter-clockwise to extend the pin, turn the knob _______________ to retract.
4. To turn around once is to ______________.
5. To stretch out or stick out is to _________________.
6. Turn counter clockwise to increase depth of cut, turn clockwise to _______________depth of cut.
7. If the machine is being changed from an oval set-up to round or ________________, the chuck also must be changed.

---

1. Where do you inspect the new punch?
2. How should the tip look?
3. After you have removed nest, what do you do next?
4. What's different in numbers 1 and 17 on the process sheet?

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B.   Teacher : Darlene Hetland
                                          Irene Kaplan

Date: June 24, 1991   Lesson Number: 5.

Objectives / Activities:

- To hear and practice word deletions: "Have you got a minute?" ("You got a minute?"), the reductions in such words as "going to", ("gonna") and practice in unstressed syllables.

- To read a process sheet, Degrease Parts #820018-001. Ensure that all vocabulary words are understood. Discuss sequence of tasks, safety procedures and the documentation (writing) tasks needed to complete the job.

- To discuss the terminolgy and write the definitions on the vocabulary worksheets.

Evaluation:

Next class will use the vocabulary sheet as a review assessment and will add a writing practice exercise to evaluate understanding of tasks specified on the process sheet.

VOCABULARY - PROCESS 820028-001
Degrease Parts
June 24, 1991

1. CAUTION ____________________________________

2. NOTE ____________________________________

3. up to one ____________________________________

4. functioning ____________________________________

5. properly ____________________________________

6. notify ____________________________________

7. discrepancies ____________________________________

8. mesh ____________________________________

9. minimum ____________________________________

10. as required ____________________________________

11. if available ____________________________________

12. option ____________________________________

13. allow ____________________________________

SKILLS ENHANCEMENT

Language Arts

Training Room :	A and B.	Teacher:	Darlene Hetland Irene Kaplan
Date :	June 24, 1991.	Lesson Number	6.

Objectives / Activities:

- Listening and speaking:
  Training Room A. "gonna", "wanna", "hafta"--reductions for and/or "coming or going".
  Training Room B. linking with vowels. "Come on in", "Is it raining out?"
- Vocabulary Practice for Degrease Parts #820018-001. matched words to meaning to review and reinforce work-specific terminology.
- Reading practice--understanding/comprehension/ drawing conclusions/ noting important words like, "caution", and "note".
- Writing on the question sheet (following this) and practice filling out parts cleaning label. Students worked in pairs to establish team-building for their manufacturing jobs.

Evaluation:

Students know some concepts such as +/- well at this time. Most know minimum and maximum. See following sheet for results of the matching exercises in training room A. Note that some students wrote nothing in answer to written questions. Will review questions together during next class. Both classes demonstrated that they need more practice skimming and scanning to locate information on the process sheet documents.

Needs assessment:

More opportunities to practice reading strategies in future lessons.

DEGREASE PARTS
PROCESS 820028-001

1. What must be worn while cleaning the parts?

2. How deep can the one layer of parts be?

3. How long should the parts be sprayed with condensed Freon TF?

4. After spraying, what is the next step? What temperature and for how long?

5. In process #5 can the Freon be allowed to drain for longer than 15 seconds?

6. In process #6 what is the maximum amount of time you can hold the parts in the Freon TF vapor zone? What's the minimum amount of time?

7. After the parts are in the Freon TF vapor zone for 15 ± 5 seconds, what do you do with them?

8. When the parts are dry, how long do they have to air dry?

9. What are the two places to put the cleaned parts? What's the first choice?

10. How should the stems be placed?

Fill out the Parts Cleaning label

PART NO. ______________________
LOT NO. ______________________
QUANTITY ______________________
CLEANED PER
PROCESS NO. ______________________
EMPLOYEE NO. ________ DATE ________
710095-001

PART NO. ______________________
LOT NO. ______________________
QUANTITY ______________________
CLEANED PER
PROCESS NO. ______________________
EMPLOYEE NO. ________ DATE ________
710095-001

VOCABULARY PRACTICE
DEGREASE PARTS 820018-001
June 27, 1991

___1. note

___2. vapor

___3. discrepancies

___4. minimum

___5. maximum

___6. sump

___7. option

___8. allow

___9. alternate

___10. functioning

___11. condensed

___12. properly

A. the most that's O.K.

B. correctly, right

C. a choice

D. let

E. a second choice

F. gas, mist, fumes in the air

G. working O.K.

H. pay attention to this

I. a low area or reservoir

J. differences, disagreements

K. liquid form, or made smaller or more compact

L. the least that's O.K.

Key
Darlene

VOCABULARY PRACTICE
DEGREASE PARTS 820018-001
June 27, 1991

H 1.	note	A.	the most that's O.K.
F 2.	vapor	B.	correctly, right
J 3.	discrepancies	C.	a choice
L 4.	minimum	D.	let
A 5.	maximum	E.	a second choice
I 6.	sump	F.	gas, mist, fumes in the air
C 7.	option	G.	working O.K.
D 8.	allow	H.	pay attention to this
E 9.	alternate	I.	a low area or reservoir
G 10.	functioning	J.	differences, disagreements
K 11.	condensed	K.	liquid form, or made smaller or more compact
B 12.	properly	L.	the least that's O.K.

Curve for Shift 1
Number correct

12 -
11 -
10 - 1
9 - 1
8 - 2
7 - 1
6 - 1
5 -
4 -
3 - 2
2 - 1
1 - 1

Curve for Shift 2
Number correct

12 - 1
11 - 1
10 - 2
9 - 2
8 - 1
7
6
5
4 - 1
3
2 - 1
1 - 1 (absent lecture)

SKILLS ENHANCEMENT

Language Arts

Training Room: A and B.   Teacher : Darlene Hetland
                                         Irene Kaplan

Date : July 8, 1991   Lesson Number : 7

Objectives / Activities:

- Listening and speaking:

  Training room A. --reductions and and/or.
  Training room B.--Practice hearing a/ an.
  "I have a little left"--"I have little left"
  idiomatic construction--"Do you mind?" and the appropriate answers to that. how to answer if "yes" or "no".

- Reading and writing:

  Review questions from Degrease Parts from the week before.
  Begin another process sheet document--External Catheter Clean #820019-002.
  Review the How-to read a process sheet to apply the strategies to the new document.
  Practice skimming, scanning, seeing sequences, noting new vocabulary works, seeing special headings, like "note/caution", and becoming cognizant of the stated safety measures.
  Learners looked over sheets and indicated which expressions were unfamiliar to them.--listed on board--then gave out teacher-made lists.

Evaluation:

Definitions on worksheets to be continued next lesson.

Employees noted the repetition of many vocabulary words and expressions as well as workplace terminology on every process sheet.

7) cascading water ______________________________

submerged ______________________________

agitate ______________________________

8) repeat in order ______________________________

9) allow excess water to drain ______________________________

10) immerse ______________________________

entire ______________________________

11) vertically ______________________________

12) (note) dragging ______________________________

14) grasping ______________________________

separately ______________________________

SKILLS ENHANCEMENT

Language Arts

Training Room: A and B. Teacher : Darlene Hetland
Irene Kaplan

Date : July 10, 1991 Lesson Number : 8.

Objectives / Activities:

- Listening and speaking:

  Introduction to linking: the English pattern of consonant-vowel linking.---reduced sounds that make English hard to hear.

- Vocabulary development:

  Finished vocabulary definitions from External Catheter Clean process sheet. Some students had taken vocabulary sheets home to look up words in the dictionary.

- Oral exercises with the worksheet," How to ask for help with a problem". Students practiced asking for help with the typical problems they encountered on the job.

Evaluation:

Students remarked how different English was from their native speech (mostly Lao) because their language distinguished each individual sound.

They need continual practice listening for the fast talk on the job. Remarked that they were already becoming more aware of what was said and how it sounded as they talked to group leaders and supervisors as a result of the classroom instruction.

Needs assessment for future planning:

Opportunities to practice oral skills on the job will be stressed.

HOW TO ASK FOR HELP WITH A PROBLEM

POLITE OPENERS

Excuse me. .
Do you have a minute?
I have a problem
I could use some help
I'm confused
I'm stuck

STATING THE PROBLEM

I'm having trouble with. .
I'm having a problem with. .
I need help with. .
I'm having a hard time with. .
There's something wrong with. .

I'm not sure about. .
I'm confused about. .

I don't know what to do. .
I don't know how to. .
I'm not sure what to do next. .

I can't find. .
I can't locate. .
I dont' know where __________ is.

I don't have the right number. .
I have run out of__________

ASKING FOR HELP

Could you help me?
What should I do?
What should I do next?
Where should I look?
When can I. . ?
Who can I ask ?
Who can help me?

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B.

Teacher : Darlene Hetland
Irene Kaplan

Date : July 15, 1991

Lesson Number : 9

Objectives / Activities:

- Listen and speaking:

  Training room B. completed unit on linking consonants (n-n), (been no). Room B. continued in unit on linking. Both practiced listening to dictation of sentences and matching them with sentences with the same meaning.

- Oral practice:

  Talked about how to approach group leader to ask for help after stating a problem. Practiced orally.
  Modeled a dialogue, " On the Job", that was created by teachers
  and development counselor after talking with several group leaders about typical verbal needs on the production floor.

- Writing practice: Individuals wrote letters to the Secretary of Education in support of a new grant for Schneider and a sister company ,AMS.
  (see following model composite letter and comment from letters)

Evaluation:

Students shared reasons why the skills enhancement classes have been valuable for them.

Needs assessment for future planning:

Closure letter will be written week of August 5 to allow students to have another opportunity to assess their own progress.

DIALOGUE --ON THE JOB-- (1)

Directions: Practice this conversation between a group leader and an employee. Then substitute other questions and expressions that could be used in similar circumstances.

GROUP LEADER: I've noticed that the last few cones coming off the assembly are quite stiff.

KIM: What do you mean?

GROUP LEADER: This happens when the pliers are "necked down" too far on the cone.

KIM: What does "necked down" mean?

GROUP LEADER: It means the pliers don't cover enough so that too much of the balloon is heated and becomes stiff.

KIM: Cover enough what? What should I do?

GROUP LEADER: Do it this way. Move the pliers this way.

KIM: What do you mean?

GROUP LEADER: Make sure they cover the whole area.

KIM: What?

GROUP LEADER: The pliers. Try it now.

KIM: I still don't understand how far to move the pliers.

GROUP LEADER: I'll show you again. Do you get it?

To the Secretary of Education:

From the Skills Enhancement Program--Language Arts Sections

This program is a great one because it helps us do a better job. It is easier for us to listen to instructions on the job and to understand what we are to do. When we are listening to group leaders and supervisors, we feel happy. We can speak to them now because we know the words and we are not so shy about speaking. We are learning how to pronounce the words for our work. Practicing how to ask for help at work is good.

Before, we did not know about the words we read. We need to understand the vocabulary in our process sheets to do the job well. Now we are learning to understand those words. We can do the writing we need on the job and we feel happy because we know how to do it. We understand more Englsh.

This program helps us to "become more independent" in our workplace.

Students of Darlene Hetland and Irene Kaplan---July 17, 1991

QUOTES FROM LETTERS TO THE SECRETARY OF EDUCATION: Irene's class 7/17/91

The more we learn English, the more we can read the process sheet easier and the more we become independent in our work place. From that point we become more efficiency and go closer to the error free in our products.

Skills Enhancement Program is very beatyful (beautiful) because the classes help me understanding in the process sheet clearly.

Since I had this English class I understand a lot when people talking.

Helpful for writing about job questions.

Helps me to pronounce words right. Before I don't quite understand when people talk. Thanks for this class I can listen to them and understand almost every words they said.

Before I got the problem about speaking and listening and now I feel I know better.

Makes you understand on the job what you do.

I'm shy to asking question.

When I listening with my group leader I feel happy because I understand more English. Thank you very much for let me learn more English.

It's hard sometime for me to tell about problem that I have.

Before I don't know much about the words, now I am a little better than before.

Help us to continue in English to understand vocabulary in process (sheets)

It's really help me to built my skill in the job.

Learn a lot of new words and how to use them.

I feel happy and I can do my work easier. So I'm very glad that company has Skills Enhancement Program.

QUOTES FROM LETTERS TO THE SECRETARY OF EDUCATION: Darlene's class
7/17/91

I'm very happy to know a lot more than before.

I understand little more new words I never know before.

Thanks to the people who provide us the English class.

I can speaking better.

I can listen very well when my leader talked with me.

I very proud that Schneider give me a ESL classes to help my English.

They help me for talking with my friend at work.

I wish my job get better.

I am appreciation you to have a English class. I'll hope you will give me more time to learn English.

SKILLS ENHANCEMENT

Language Arts

Training Room: A Teacher: Darlene Hetland/Irene Kaplan

Date: July 17, 1991 Lesson Number: 10

Objectives / Activities:

- Darlene's class - Sound Advice - dictation with linked words. Questions calling for making inferences from sentences, e.g., "Where is the speaker? What is he referring to?

- Understanding process sheets:
  Irene's class finished vocabulary definitions. Both classes answered questions for External Catheter Clean, then discussed orally. Practiced skimming to locate answers.

- Classes joined together last 20 minutes to practice dialogue between Kim and Group Leader. They changed partners and practiced both parts. Teachers evaluated pronunciation and expression.

Evaluation:

- Students were not able to make inferences from dictated sentences.
- Questions from External Catheter Clean going well - need to finish next class.
- Students appeared to enjoy practicing with other class. Many students thought it would be helpful to practice a similar exercise with a group leader whose first language is English.

Needs Assessment for future planning:

- Many students said that it is difficult to ask a group leader for help on the floor because he/she is impatient or easily angered. We need to communicate this finding to Schneider personnel and help our students practice ways of communicating that are less likely to illicit an angry response. They need the confidence and courage to seek necessary assistance and clarification if they are going to produce a good quality product.

QUESTIONS FOR EXTERNAL CATHETER CLEAN PROCESS 820019-002

July 8, 1991

1. If there are any damaged catheters, who should you contact?

2. What could you say?

3. Why should you use a "lint free cloth" to clean the handling tray?

4. Why must you check the log sheets for the equipment?

5. What is the largest number of catheters that you can clean at one time?

6. Look at NOTE: in procedure 6.
   If the flow meter is 3.5 what do you do?

7. Look at Figure 2-OHM READ OUT--
   If the OHM readout is 1.30, what do you do?

   Can you clean the parts if the OHM readout is 1.30?

8. Look at NOTE: in procedure 10.
   Isopropyl alcohol must be changed every ________bundles.

   What does it mean "to keep a tally"?

9. How can tips be kept from dragging in sump?

10. How do you blow out the interior of the catheter?

    How do you dry the exterior?

11. What are the maximum numbers of guiding catheters in each tray?

12. What will you do with each tray of cleaned catheters?

13. Fill out the parts cleaning tag below.

Fill out the Parts Cleaning label

PART NO. ____________________
LOT NO. ____________________
QUANTITY ____________________
CLEANED PER
PROCESS NO. ____________________
EMPLOYEE NO. ________ DATE ________
710095-001

PART NO. ____________________
LOT NO. ____________________
QUANTITY ____________________
CLEANED PER
PROCESS NO. ____________________
EMPLOYEE NO. ________ DATE ________
710095-001

SKILLS ENHANCEMENT

Language Arts

Training Room : A and B   Teacher : Darlene Hetland
Irene Kaplan

Date : July 22, 1991   Lesson Number 11.

Objectives / Activities:

- Listening and speaking:
  Training room A. Linking identical consonants--
  B. Function words beginning with "h", dropped. Practice with questions with has/have. Linked sounds like "did he", "does he ", "see her".

- Reading and writing:
  Completed questions for External catheter clean #820019--002. Noticed the importance of reading graphics (figures) and when to call the group leader if there are discrepancies in procedures or readouts on meters.

  Reviewed vocabulary connected with the cleaning process by matching and multiple choice worksheets.

  Discussed how to find the most correct answer when given a choice.

Evaluation:

Learners commented that this series of processes to learn a task (isolating vocabulary, analyzing sequential steps, and reviewing the language used) would have been so helpful for them if they had been able to do these when they were first trained on their jobs.

Needs assessment for future planning:

Would find it valuable to take each individual learner through his own process sheet with the techniques above.

Have stress the "how-to's" so the learners can transfer these same skills to his own tasks.

Have stressed learners' responsibilities to ask for clarification from group leaders.

VOCABULARY REVIEW
External Catheter Clean
Process 820019-002
July 17, 1991

_____ 1. tangled

A. in a group
B. below water
C. twisted together
D. different

_____ 2. discoloration

A. to color or paint
B. not the right color
C. to take the color out
D. having no color

_____ 3. submerge

A. immerse
B. to rinse in water
C. to let the water drip out
D. to mix together

_____ 4. vertically

A. from side to side
B. at an angle
C. in a circle
D. up and down

_____ 5. discrepancies

A. instructions
B. things that don't match the way they should
C. things that belong together
D. things that belong in different groups

_____ 6. interval

A. a period of time
B. being late
C. being early
D. a long time

_____ 7. delicate

A. strong
B. not strong
C. one in a group
D. someone who goes to a convention

_____ 8. prior

A. before
B. after
C. during
D. sometime

_____ 9. specifications

A. directions, requirements
B. things you shouldn't do
C. asking questions
D. answering questions

_____10. questionable

A. correct for sure
B. not correct
C. not sure if it's correct
D. a person who asks questions

_____11. internal

A. far from
B. close to
C. on the outside
D. on the inside

_____12. agitate

A. don't move
B. stir, move
C. allow to dry
D. put in a liquid

SKILLS ENHANCEMENT

Language Arts

Training Room:	A	Teacher:	Darlene Hetland
Date:	August 5, 1991	Lesson Number:	12

Objectives / Activities:

- Sound Advice - Objective - To hear linked words (ending consonants linked with beginning vowels - "It's a" - and same consonant ending and beginning - "been no." This exercise included dictation. Also practiced matching sentences with similar meanings. Finished lesson 2.
- To learn/reinforce vocabulary meaning. Used the attached fill-in-the-blank worksheet. Spent a few minutes trying to complete without a word list, then wrote words on the board from which to choose. Process sheets were provided to find the word in context and gain clues from that. Discussed and reviewed.

Evaluation:

- Sound Advice exercises were difficult. Many of the phrases are not everyday expressions. Success in matching sentences heard to a similar written meaning was varied. The class range was 0-3 wrong out of 5. Many had difficulty with the process of circling the correct one out of three sentences.
- No student could fill in the correct vocabulary words successfully without a list of words. Many were fairly successful when given a word list.

Needs assessment for future planning:

- All students chose to have more vocabulary practice Monday.

SKILLS ENHANCEMENT

Language Arts

Training Room : B　　Teacher : Irene Kaplan

Date : July 24, 1991　　Lesson Number: 12

Objectives / Activities:

- Listening and speaking: Sound Advice--pp. 25-27.
  Listening for questions beginning with have and has for the dropped "h" in fast productions of the sound.
  Reduced sounds of "does he" , "is he", "for him", and "is he". Oral and written practice from dictation.

- Developing problem -solving skills on the production floor.
  Students shared one question they asked group leader or supervisor during the past week.
  Listed the questions and discussed the possible dialogues that could or did ensue from the questions.
  Planned how to write individual conversations, each based on the starting sentence. See following worksheets.

Evaluation:

- Learners practiced word order, verb tenses, and polite forms of requesting help, clarification, and information to prepare to write and speak their own created dialogues. They were enthusiastic about the writing task for the next class session.

Needs assessment for future planning:

- Learners will come into the next class with created dialogues. Instructors will type each dialogue and put them into a classroom dialogue booklet for the following lesson. Then students will work in pairs taping the dialogues for the class members to hear.

[illegible]

VOCABULARY REVIEW
External Catheter Clean
July 24, 1991

1. Something that is easily broken or damaged is delicate.

2. Things that are twisted together in an unorganized way are tangled.

3. Two words for putting something completely under water (or another liquid) are immerse and submerge.

4. When you lie down your are in a horizontal position. When you stand up you are in a vertical position.

5. Something is Questionable if it doesn't look O.K. for sure.

6. External means the outside, and internal means the inside

7. To stir up or swish around is to agitate.

8. You put on a cap and gown prior to going in the clean room.

9. You make catheters according to the specifications in the process sheets.

10. There are discripancies when things don't match the way they should.

11. If you change the oil in your care every six months, you change it as six-month intervals.

12. Watch for discoloration of the soft tip. It's not good if it's not the right color.

Irene

CONVERSATION AND DIALOGUES --QUESTIONS AT WORK--FIRST SHIFT CLASS

JULY 24, 1991 1:45--3:15 PM.

1. Why to we have an orange TCF instead of a yellow one that we used to have?

2. What do you want me to do today?

3. Why don't we have a job today?

4. Why do we get a flash on the parts?

5. Do you have any issues for Cell 5 to do?

6. Do you want me forming or hubbing today?

7. Why do you want me to do this job again? I already did it yesterday?

8. Why do you always send me out to a different area?

9. Why don't you tell me before, so I don't made mistakes?

10. Do we need to sign off for a flawed tip?

Irene

CONVERSATION AND DIALOGUE-- QUESTIONS AT WORK-- SECOND SHIFT CLASS

JULY 24, 1991   3:45--5:15 PM.

1. What should I do? We don't have any work.

2. Why is the process sheet important for everyone to read?

3. Do we have another lot to do?

4. What is the possible cause of molding tip short shots?

5. Why must we count parts before we start?

6. Where can I find the buried shipping boxes?

7. What should I do if my proximal bond gets bubbles?

8. When can I start another lot?

9. What should I do if the molding machine is shut off?

10. Do I have any re-work to do today?

SKILLS ENHANCEMENT

Language Arts

Training Room: A   Teacher: Darlene Hetland

Date: July 29, 1991   Lesson Number: 13

Objectives / Activities:

- Linking beginning "H's" in function words--pronouns and auxiliary verbs. e.g. "I want to see her" - "see-er."
- Vocabulary development - The students and I felt that more practice was needed to master the vocabulary presented in the External Catheter Clean process. The attached sheets were used for further review. We also practiced the words orally, attempting to transfer them to varying uses.
- Expressing situations and problems at work using "I" messages. We used the attached sheet and formulated several statements for the first few situations.

Evaluation:

- With the exception of two or three students, vocabulary appears to be fairly well mastered. The students showed much improvement.

Needs assessment for future planning:

- The students would like spot vocabulary review in the future, so they don't forget.
- Continue formulating ways to express situations/problems. The students display a need for this.

SKILLS ENHANCEMENT

Language Arts

Training Room : B

Teacher : Irene Kaplan

Date: July 29, 1991

Lesson Number: 13

Objectives / Activities:

- Listening and speaking: Sound Advice--pp. 27-30.
  Listening for the silent "h" sounds in "him, he".
  Producing sounds like, "does it, has it, is it" which sound like "zit".
  Writing short dictations listening to the reduced sound.

- Collected student generated dialogues to be typed and collated for the next class period.

- Partnering in twos, learners worked on worksheet, "Some Problem You May Find on the Job".
  Matched and located two ways of expression the same difficulties.

Evaluation:

- Students wrote individual dialogues (conversations)--they were pleased that they could express themselves both in written and verbal work.
  Dialogues will be typed and compiled for students to tape at the next lesson.

Needs assessment for future planning:

- More practice next week will include worksheet on "I" statements for expressing needs.

[illegible]
[illegible]

VOCABULARY REVIEW
External Catheter Clean
July 29, 1991

_____ 1. delicate

_____ 2. discrepancies

_____ 3. submerge

_____ 4. vertical

_____ 5. horizontal

_____ 6. discoloration

_____ 7. tangled

_____ 8. external

_____ 9. internal

_____10. agitate

_____11. prior to

_____12. specifications

A. immerse

B. side to side

C. not the right color

D. the outside

E. the inside

F. will break easily
handle carefully

G. disagreement between facts
things that don't match

H. twisted together in an
unorganized way

I. before

J. to move around, stir up

K. rules, instructions,
directions

L. up and down

Fill in the blank with a word from the preceding page.

Darlene
[illegible]

1. I wash my ____________________ china carefully. I don't want to break it.

2. When the numbers don't match on the TCF, I tell my supervisor about the ____________________.

3. The ________________ part of the catheter is the outside. The ________________ part is the inside.

4. Make sure the catheters don't get ____________________. Long, thin things get twisted together easily.

5. You make catheters according to the ____________________ on the process sheets.

6. If the process sheet says don't ________________ you should hold the catheters still in the liquid.

7. When you sleep at night you are in a ________________ position. When you stand up you are in a ________________ position.

8. ________________ and ________________ mean to put something completely into a liquid.

9. You apply for a job ____________________ having an interview.

10. Look for ____________________ of the soft internal tip. It's not good if it's not the right color.

[illegible] A

MATCH THE SITUATION WITH WHAT YOU MIGHT SAY TO YOUR CO-WORKER OR SUPERVISOR.

___ 1. You don't have enough materials.

___ 2. You don't have the right number of parts.

___ 3. You do the job wrong.

___ 4. You don't know where to locate the information needed on the TCF.

___ 5. You don't know where something is.

___ 6. Your machine isn't working right.

___ 7. You have been given several directions, but you don't understand all of them.

___ 8. You are reading the process sheet and don't understand all of the words.

___ 9. You don't know what to do or how to do it.

___ 10. You can't remember what to do.

A. I made a mistake.

B. Something's wrong with my machine.

C. I need some directions.

D. I can't find the ___.

E. I ran out of supplies.

F. I'm not sure what to write down here.

G. My count didn't come out right.

H. There are a few things I need to ask about.

I. I forgot what I'm supposed to do.

J. Some of these words are new to me.

Trans

SOME PROBLEMS THAT YOU MAY FIND ON THE JOB.
July 22, 1991

Directions: Match the similar ways of expressing these difficulties.

1. You run out of supplies.
2. You don't have the right number of parts.
3. You are told two ways to do the job.
4. You make a mistake.
5. You can't remember what to do.
6. You don't understand the directions.
7. You don't know where something is.
8. You want to tell the group leader that something is wrong.
9. Your machine is not working right.
10. You have been given a number of directions but you did not understand them all.
11. You are reading the process sheet and you don't understand some of the words.
12. You need to write on the TCF but you don't know what issue number to document.

______ You don't know what to do or how to do it.

______You don't know where to locate information needed on the TCF.

______Your part is not up to specifications.

______You can't find something you need.

______The vocabulary on the process sheet is new to you.

________The equipment is broken.

_____You don't have enough materials.

_____Your group leader tells you one way. Your co-worker tells you another way.

_____Your count didn't come out right.

_____You do the job wrong.

______You forgot what you were supposed to do.

______You know part of what your team leader told you, but not everything she said.

SKILLS ENHANCEMENT

Language Arts

Training Room: B

Teacher: Irene Kaplan

Date: July 31, 1991

Lesson Number: 14

Objectives / Activities:

- Listening/speaking - Dictation conversation using dropped "h" sounds. Writing in books and on the board. Listening for sentences that mean the same. Emphasis on pronouns and verb tenses for clues to meaning.
- Shared all dialogues created by individuals in class. Oral practice with dialogues including opportunities to ask questions and discuss conversation, replies, and questions.
- Created tapes with individuals and partners, taping their and partner's dialogues. (Tape kept to listen to for pronunciation practice and to listen for own special needs.)

Evaluation:

- Learners report that they are listening with more care on the production floor and asking for clarification more often. They say they are less anxious about speaking up if they don't understand how to do/what to do.

Needs assessment for future planning:

- Future practice on listening for clues to meanings such as verb tenses, pronouns (male/female - singular/ plural) and question words (who, where, why, etc.)

STUDENT CREATED DIALOGUES --ON THE JOB--JULY, 31, 1991

Training Room B. 1:45--3:15 PM.

1--B--00734

A. I want you to do something right now.

B. What do you want me to do today?

A. Print heat shrink lot number FMW912012.

B. Why are you telling me to do this job again?
I already did it yesterday.

A. Because somebody made a mistake, so we need to do heat shrink printing again.

B. Oh, I see. I will do it right now.

1--B--01366

A. Good morning. What do you want?

B. I have an appointment to see the Immigration Officer tomorrow. Can I take my personal holiday off for tomorrow?

A. Yes, tomorrow's fine. Anything else?

B. No, and thank you.

1--B--00410

A. This lot is missing three parts.

B. How many times did you count?

A. I counted two times, and Lisa counted one.

B. When you're done this lot, let me know. I will take care of it.

STUDENT CREATED DIALOGUES --ON THE JOB--JULY, 31, 1991

Training Room B.   1:45--3:15 PM.

1--B--00734

A. I want you to do something right now.

B. What do you want me to do today?

A. Print heat shrink lot number FMW912012.

B. Why are you telling me to do this job again?
I already did it yesterday.

A. Because somebody made a mistake, so we need to do heat shrink printing again.

B. Oh, I see. I will do it right now.

1--B--01366

A. Good morning. What do you want?

B. I have an appointment to see the Immigration Officer tomorrow.
Can I take my personal holiday off for tomorrow?

A. Yes, tomorrow's fine. Anything else?

B. No, and thank you.

1--B--00410

A. This lot is missing three parts.

B. How many times did you count?

A. I counted two times, and Lisa counted one.

B. When you done this lot, let me know. I will take care of it.

1--B--00597

A. Why do we get a flash on the parts?

B. Did you check the pressure yet? What is it?

A. It said 1700 primary and 1000 sccondary.

B. Why don't you bring down 500 primary and 300 secondary.

A. I still get a flash.

B. Did you take a look at shot size?

A. Yes, I did--It said 1.5.

B. Let's lower it about 1.

A. I still have a flash.

B. Did you watch the temperature?

A. Yes, I did, it said 500 degrees.

B. What about the molds temps?

A. It said 80 degrees.

B. How are your parts?

A. Getting better now.

1--B--01428

A. Why do we have an orange TCF instead of the yellow one we had before?

B. They changed the resin. Now we have the new one. Therefore the orange TCF is the flag for people to know that the lot that goes along with the orange TCF is made of the new resin

A. How long have we been using this new material?

B Just a few days.

A. Does the new resin make better catheters than before?

B. They are still being tested, so I don't know yet.

A. I hope it works well.

1--B--00769

A. What do you want me to do do today?

B. You can do bond marker band to inner member.

A. Why can't I do something else beside that?

B. You can do bond outer member to manifold. Do you know how to do it?

A. Yes, I do, but I need you to show me again.

B. I'll be there shortly.

1--B--01183

A. Why do you always send me out to a different area?

B. Because I don't have enough stems, and that section needs your help.

A. Why don't you send other people?

B. Because you have been certified on that job.

A. Oh, OK. I understand. How long do I have to work there?

B. For a while, or a few days. Don't you like it?

A. Yes, I do, but I enjoy working with you.

B. Don't worry. I'll have you back soon.

1--B--00555

A. Next time you can wait for me before you start to do anything at work.

B. I don't want to wait because some of my co-workers might think I don't keep myself busy enough.

A. That is okay. I'll take care of them if they're complaining about you.

B. I'll do what you've told me.

1--B--00737

A. Good morning B. K. Do you see John around?

B. Morning. No. John is not here today. He is taking a day off. I'll take his job for today. What can I do for you?

A. Do you have any issue for first shift today?

B. Yes, I do have some, but I'm still working with the TCF's right now.

A. Oh, good. How long will it take? If it is possible, would you give me some to start with because the formers don't have anything to do yet?

B. Sure. I will give you one lot first. O. K.?

A. Thanks . I appreciate it.

1--B--01406

A. Why do we have no jobs today?

B. I will be looking in Mary's area. Maybe she will give you a job there. Let's go and see her.

A. I'll follow you the Mary's area.

STUDENT CREATED DIALOGUES--ON THE JOB--JULY 31, 1991.

Training Room B. 3:15--5:45 PM.

2--B--01296

A. What should I do? We don't have any work.

B. Let me call another operation, in the clean roon, to see if they need any help.

A. O.K. I'll wait.

B. They need an extra person.

A. Who should I meet in the clean room?

B. Just walk in there, put on a gown , boots, hair net, and the group leader will come out and pick you up over there.

A. Who am I going to work with?

B. You can help someone seal bags.

2--B--01320

A. What should I do if the molding machine is shut off?

B. Check the switches on the table control panel.
shuttle oneside knock out "n"
secondary injection "off"
decompression "off"

A. What else should I do?

B. Have you checked out water temperature and heat? Also reset the molding temperature again.

A. If I check this and reset and the machine is looking good, may I do my job?

B. How about your temperature? Have you checked it yet? How does it look?

A. Temperature 290 degrees and heat is 110 degrees--looking great.

2--B--01230

A. Do we have another lot to do?

B. Yes, we have one more lot.

A. Where is it?

B. It's on that table.

A. How many parts does it have?

B. It has about 700 parts.

A. What size are those?

B. 6 French.

A. When do I start on that lot?

B. As soon as you get this lot done.

A. Who is going to help me ? That's a big lot,isn't it?

B. I'll get someone to help you.

2--B--01197

A. Why must I count the parts before I start?

B. You have to count first to make sure the parts in the tray are the same number as the TCF says.

A. If I found any missing or incorrect, then what?

B. Tell the group leader.

A. Put the lot on hold?

B. Go get another lot to work on.

2--B--00384

A. What should I do if my proximal bond gets bubbles?

B. You have to check the parts. Make sure it's not moisture.

A. Yes, I did check them.

B. Did you check your heat shrink? How long ago was it cleaned?

A. Yes, it was cleaned two days ago.

B. Then, take your parts and go heat it.

2--B--00828

A. Do I have any re-work to do today?

B. I don't think so.

A. What should I do?

B. Let's see. I'll go check with the receiving people to see if they have any work to do.

A. O. K. I'll be waiting here.

B. Well, I'll send you to receiving. They might have something for you to do.

2--B--00743

A. What can I do to help you?

B. I would like you to help me to do alloyed heat seal.

A. How do I do it?

B. Before you start working you have to check the process sheet and get the equipment you need for this operation.

A. O.K. and what else?

B. You have to check for FM on the tray, cover and tyvek lid sheet. Somehow it is hard to see.

2--B--01345

A. Can you check the rusty tip I.D. with the scope for me?

B. Yes, sure. I'll help you after break time.

A. Have you worked with the scope before?

B. No, I never did that before.

A. Look, I'll show you. Set up the scope and see if that is clear enough for you. Do you understand me?

B. Yes, a little bit.

A. Do you know how to look for delamination? (rust,brown, cracking)

B. Yes. I have to look into the part for delamination and if they are big, scrap them.

A. After you are done, can you fill out the TCF and copy it?

2--B--00882

A. Excuse me, I need your help.

B. What are the problems that you are having?

A. These molding tips have not been covered completely.

B. We call that short shots.

A. What are the possible causes?

B. It could be high moisture content, melt temperature too low, injection pressure too low or mold temperature too low. Or it could be insufficient feed or nozzle temperature too low or even screw bottom out.

A. Are there any solutions to these?

B. Sure. Just dry the material longer, increase melt temperature, increase injection pressure, check for bridged hopper, increase nozzle temperature, increase mold temperature, and check shot size.

A. Thanks for your time.

2--B--01252

A. When can I start another lot?

B. You will start another lot after 10:30. Are you done with the lot you're working on?

A. Yes, I'll be done by 10:00 o'clock.

B. I need you to help Xay after you've done your work. Do you know how to do this work?

A. Yes, I did this forming job before.

CHANGE APPLICATION: DIRECTIONS: Below is a " CHANGE APPLICATION" for medical insurance.

You recently had a new baby. The baby, whose first name is Kim, was born on June 30, 1991.

Complete the appropriate sections of the form to add your new dependent to your medical insurance.

CHANGE APPLICATION

Company Name

Plan I.D. No. [redacted]

Employee's Name (As appears on I.D. card)

Social Security No.

Reason for Change

☐ Delete Employee
Effective Date

Reason Code [redacted]

Refund [redacted]

☐ **Changes** to employee (enter **only** those data elements you wish to change)

Effective Date [redacted]

Name ______

Address ______

City ______ State ______ Zip ______

County ______

Home Phone ______

Class Code [redacted]

Effective Date [redacted]

Dept. Billing No. Check this

Marital Status ______

Date of Birth ______

Marriage Date ______

Date of Divorce ______

☐ Change/add Dependents (NOTE: Principal place of residence must be with subscriber)

Check appropriate box	Dependent number within family	Full Name	Relationship	Sex	Birth Date Mo. Day Year	Eff. Date of Change Mo. Day Year	Reason Code
☐ Change ☐ Add ☐ Delete	01		Spouse (If no spouse listed leave space blank)		/ /	/ /	
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						

On behalf of myself and any dependents listed above, I hereby apply for change(s) to my coverage under the Plan Master Group Contract.
I understand that the benefits for which I (we) shall be eligible are in accordance with those described in such Master Group Contract and any amendments or addendums provided for ereto. I further understand that certain services may require a copayment payable by me (or my dependents).
. authorize the above change(s) and my employer's deduction of the necessary contribution amounts, if any, from my wages or salary with the understanding that my employer acts as my ent in all dealings with the Plan, and that all acts performed by my employer and all notices given to my employer in such dealings are binding upon me, as not prohibited by statute or gulation.
In the event that this Application is accepted, I authorize any physician or other provider of health services to provide the Plan (or its authorized agent), upon request, any information concerning the health condition or treatment of any person included under such coverage whenever such information is considered necessary by the Plan for the proper disposition of a claim submitted for payment or in fulfillment of obligations imposed on the Plan by state or federal statutes.

I certify that any information shown above is correct and my signing below indicates that I understand that all information given is subject to verification

X ENROLLEE SIGNATURE ______ DATE ______

APPROVED BY (GROUP ADM.) 193 ______ DATE ______

[illegible]

WHAT YOU MIGHT SAY IF . . .

YOU DON'T HAVE ENOUGH MATERIALS

I'm out of_____.
I ran out of _____.
I'm running out of _____.
I've run out of _____.
My supplies are running out.
I need more ______.
I need some more _____.
My number isn't right.
I'm short _____.
I'm (almost) out of _____.

YOU DON'T HAVE THE RIGHT NUMBER OF PARTS

My count didn't come out right.
My count isn't right.
I have to count again.
I have to double count.
Can you check this count?
I'm short parts
The number's not matching.
It's not the right quantity.
The quantity's not right with the TCF.
The quantity doesn't match the TCF.
The number doesn't agree with the TCF.

YOU DO THE JOB WRONG

I'm sorry, I made a mistake.
I did this (it) wrong.
I didn't do this (it) right.
Someone made a mistake.

YOU DON'T KNOW WHERE TO LOCATE INFORMATION NEEDED ON THE TCF.

I need some help.
I can't find this information.
I'm not sure what to write down here.
This doesn't make sense.
The thing I fill out isn't right.
This doesn't match with the TCF.
Can you check this and see if it's right?

Darlene
[illegible]

MATCH THE SITUATION WITH WHAT YOU MIGHT SAY TO YOUR CO-WORKER OR SUPERVISOR.

___ 1. You don't have enough materials.

___ 2. You don't have the right number of parts.

___ 3. You do the job wrong.

___ 4. You don't know where to locate the information needed on the TCF.

___ 5. You don't know where something is.

___ 6. Your machine isn't working right.

___ 7. You have been given several directions, but you don't understand all of them.

___ 8. You are reading the process sheet and don't understand all of the words.

___ 9. You don't know what to do or how to do it.

___ 10. You can't remember what to do.

A. I made a mistake.

B. Something's wrong with my machine.

C. I need some directions.

D. I can't find the ___.

E. I ran out of supplies.

F. I'm not sure what to write down here.

G. My count didn't come out right.

H. There are a few things I need to ask about.

I. I forgot what I'm supposed to do.

J. Some of these words are new to me.

VOCABULARY REVIEW
External Catheter Clean
July 29, 1991

____ 1. delicate

____ 2. discrepancies

____ 3. submerge

____ 4. vertical

____ 5. horizontal

____ 6. discoloration

____ 7. tangled

____ 8. external

____ 9. internal

____10. agitate

____11. prior to

____12. specifications

A. immerse

B. side to side

C. not the right color

D. the outside

E. the inside

F. will break easily
handle carefully

G. disagreement between facts
things that don't match

H. twisted together in an
unorganized way

I. before

J. to move around, stir up

K. rules, instructions,
directions

L. up and down

Darlene

1. I wash my ____________________ china carefully. I don't want to break it.

2. When the numbers don't match on the TCF, I tell my supervisor about the __________________.

3. The ______________ part of the catheter is the outside.
The ______________ part is the inside.

4. Make sure the catheters don't get __________________. Long, thin things get twisted together easily.

5. You make catheters according to the __________________ on the process sheets.

6. If the process sheet says don't ______________ you should hold the catheters still in the liquid.

7. When you sleep at night you are in a ______________ position.
When you stand up you are in a ________________ position.

8. ______________ and ______________ mean to put something completely into a liquid.

9. You apply for a job ____________________ having an interview.

10. Look for ____________________ of the soft internal tip. It's not good if it's not the right color.

SKILLS ENHANCEMENT

Language Arts

Training Room: A
Teacher: Darlene Hetland

Date: August 5, 1991
Lesson Number: 15

Objectives / Activities:

- Sound Advice - practiced listening for reduced pronouns e.g., "Is he" -"ize"
- Students had requested irregular verb conjugations. I provided them with some copies and talked about verb tenses.
- To verbally explain a situation at work or express a problem. Formulated more "I messages" as a class using the previous matching sheet.
- Talked about the importance of using "I" rather than "you" messages for promoting a more positive environment.
- Handed out " messages" formulated in last Wednesday's class. Each student chose a message heshe was most comfortable saying in each situation.

Evaluation:

"I messages" seemed valuable. Students' eyes lit up when we discussed the difference in feelings for, "Come and help me," and "I need some help."

Needs assessment for future planning:

Students requested more clarification of verb tenses using action verbs.

SKILLS ENHANCEMENT

Language Arts

Training Room: B   Teacher: Irene Kaplan.

Date: August 5, 1991.   Lesson Number: 15

Objectives / Activities:

- Introduced "I" statements that arise from a problem on the production floor. Referred to the matching sheets used last Wednesday and completed a matching exercise," Situations at Work".
- Practiced orally manipulating verb tenses and pronouns, especially using the idioms, "I've run out of materials" and "I don't know where my _______is", and "I can't find _______".
- Learners listened to others and repeated a chain learning listening activity. Emphasis on listening to other speakers and the proper pronunciation of the tools and materials each person uses.
- Taped dialogues with partners and listened to what other groups were taping.

Evaluation:

- Today the emphasis was on careful listening and speaking practice. Students spent much time evaluating their own progress.

Needs assessment for future planning:

- Next lesson, the final one for this session, will be a wrap up of writing, reading, speaking and listening skills that were taught in the session. Learners will have an opportunity to practice the dialogues they created one more time and tape these with different partners.

Communication
by classroom
training
[illegible]

WHAT YOU MIGHT SAY IF . . .

YOU DON'T KNOW WHERE SOMETHING IS

I can't find _____.
I don't know where _____ is.
Do you know where _____ is?
Can you (please) help me find the _____?
Will you (please) help me find the _____?
Where is (are) the _____?
Can you see the _____?
Have you seen the _____?

YOUR MACHINE ISN'T WORKING RIGHT

Something's wrong with my machine.
Can you take a look at my machine?
Can you check my machine?
Can you fix my machine?
What should we do about this?
Do you have a minute? I need help to look at this machine.
(I think) We need to call set-up.
My machine is down. Please call set-up.
I would like you to check the product. I think there's something wrong with my machine.
Can you check the product? I thing there's something wrong with my machine.
Please come check the machine.

YOU HAVE BEEN GIVEN SEVERAL DIRECTIONS, BUT YOU DON'T UNDERSTAND ALL OF THEM

There are a few things I need to ask about.
I'd like to ask you about some things.
I'd like to ask you some things about _____.
I need some more directions.
Can you explain that to me again?
I'm not sure about all the directions. I want to do it right.
It wasn't all clear to me.
I don't understand everything. Can you speak slowly for me?
Would you please tell me how to (what to) do _____?

WHAT YOU MIGHT SAY IF . . .

YOU ARE READING THE PROCESS SHEET AND DON'T UNDERSTAND ALL OF THE WORDS

Some of these words are new to me.
Can you explain this to me?
I need some help with this word.
Can you tell me what this means?
I don't understand this part (word).

YOU DON'T KNOW WHAT TO DO OR HOW TO DO IT

I need some directions.
I need some ideas.
I don't know where to start.
I'm not sure what to do.
What should I be doing?
What am I supposed to do?

YOU CAN'T REMEMBER WHAT TO DO

I forgot what I'm supposed to do.
Can you show (tell) me again?

SKILLS ENHANCEMENT

Language Arts

Training Room A Teacher Darlene Hetland

Date August 8, 1991 Lesson Number 16

Objectives / Activities:

- To practice/master filling out Change Application for medical insurance. Practiced adding a new spouse.
- To have a better understanding of action verb tenses, especially the frequently used present perfect tense. Practiced asking and answering questions in this tense - "Have you seen _____ today?" "Yes, I have."
- To review "I messages," formulated on Monday, to explain a situation or express a problem at work. The students were given copies of their sentences. We practiced pronunciation and expression, and each student chose the expression he/she preferred for each situation.
- To read with comprehension the company newsletter, Angiogram. We read the article about the coming company picnic and discussed new vocabulary. (This was abbreviated because of lack of time.)
- To recognize student achievement. Pam Streiff provided certificates of recognition. Refreshments were served.

Evaluation:

Change Application for benefits - skills much improved, but not mastered. One or two more practice sheets would provide for a good skill and comfort level.

Needs assessment for future planning:

Review and practice Change Application for benefits.

SKILLS ENHANCEMENT

Language Arts

Training Room: B Teacher: Irene Kaplan

Date: August 7, 1991 Lesson Number: 16

Objectives / Activities:

Closing evaluative exercises to measure progress after eight weeks of classes

- Writing assessment: A friendly letter to someone telling him/her what the learner found helpful in the class and how the skills made the job at Schneider easier. Students added what they would like to learn in the future segments of the Skills Enhancement Program.
- Listening and speaking: Reviewing all the student-generated dialogues and then making tape recordings with different partners. Listening to make corrections of pronunciation.
- Reading: Looking at one article from the company newsletter and talking about the terms, idioms, and vocabulary that students don't know.

Evaluation:

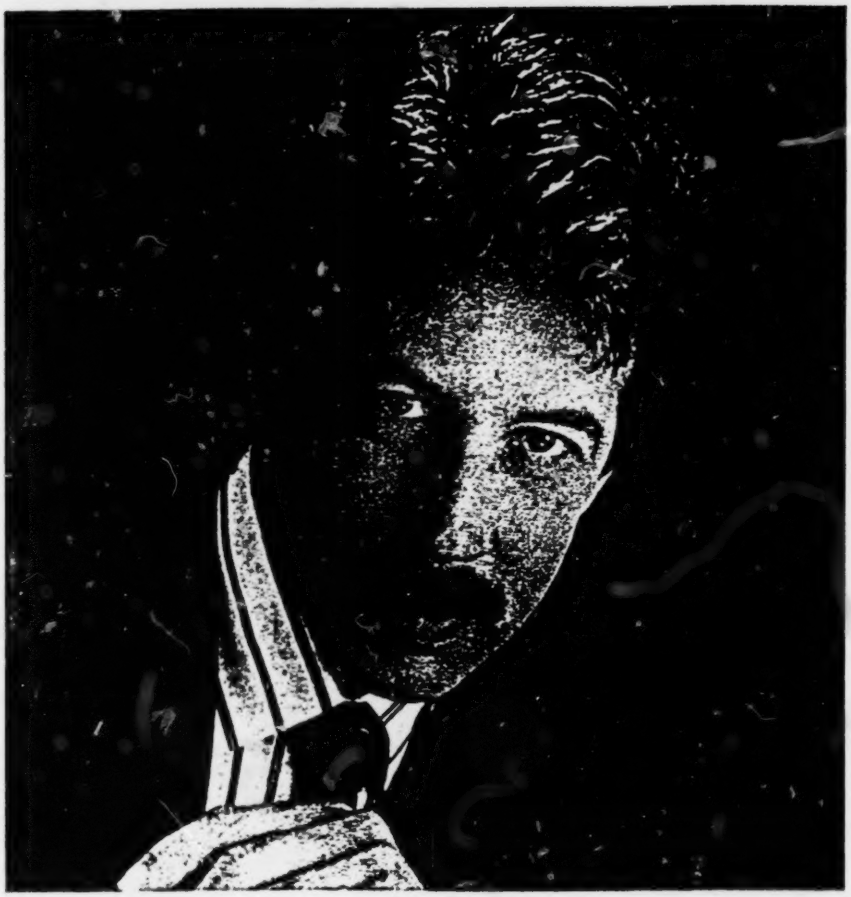
- Students enjoyed seeing their many accomplishments and having a sense of closure to the eight-week session.

Needs assessment for future planning:

- Future plans should included reading of company newsletter to assist students in understanding the "culture" of their workplace.

Great food, fun and entertainment...

Company picnic is planned for August 10



John-Ivan Palmer, memory expert and "the world's fastest (and funniest) stage hypnotist," will be among the performers at Schneider (USA) Inc's Annual Company Picnic on Saturday, August 10.

What do a karate expert, hypnotist and caricature artist have in common? They will all be appearing at Schneider (USA) Inc's Company Picnic which will be held on Saturday, August 10, 11:00 a.m. to 4:00 p.m. on the Company grounds. And they are only part of the entertainment planned for this exciting event...

Picnic attendees will have their eyes on the sky as they watch hot air balloons in flight. Weather permitting, balloon rides will be given to those making a one dollar donation to the United Way.

Every fifteen minutes, drawings for door prizes will be held. Winners names will be posted near the deejay. Among the prizes to be given away are a television set, cordless phones and telephone answering machines.

The competition may be fierce at one event. New this year will be a volleyball tournament with a traveling trophy awarded to the winning first place team. We hope to make this an annual event. For more details on the tournament, please contact Scott Stockmoe at ext. 5620.

For children, there will be a petting zoo, face painters, moon walk and pony rides. A duck pond and lollypop trees have been added this year along with a relay race, balloon toss and obstacle course. Prizes will be awarded for these events.

Activities for teens will include Jacob's Ladder, high striker (ringing a bell with a hammer), electronic basketball and a tug-of-war (teams will be formed the day of the picnic).

A delicious picnic meal, which will be served between noon and 3:00 p.m., will be catered by Best. Throughout the day, beverages, snow cones and cotton candy will be served.

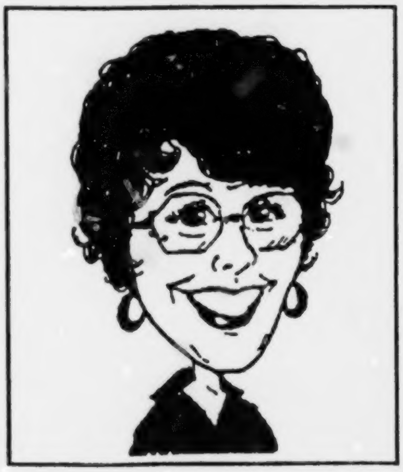
(continued on page 2)

Company picnic (continued from page one)

All Schneider (USA) Inc employees and their families are invited to attend this year's picnic, which promises to be the best ever. Don't miss it!

Pre-registration is required for the picnic and, as in the past, your 5 refundable deposit will be returned when you register at the picnic.

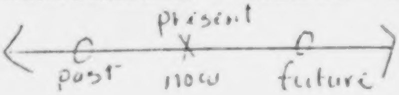
If you have any questions about this event, please contact Maureen Welch at ext. 5664.



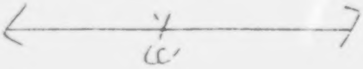
Sue Blair, caricaturist, will be among those

BEST COPY AVAILABLE

ACTION VERBS - CONJUGATION - SAMPLE SENTENCES

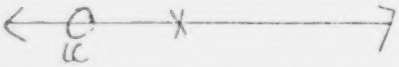


SIMPLE PRESENT TENSE



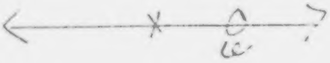
I work at Schneider.

PAST TENSE



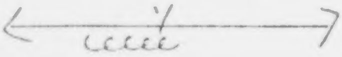
I worked in a restaurant last year.

FUTURE TENSE



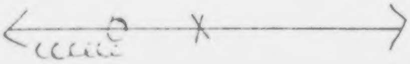
I will work at Schneider for many years.
I'm going to work at Schneider for many years.

PRESENT PERFECT TENSE



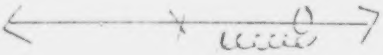
I have worked at Schneider since 1989.

PAST PERFECT TENSE



I had worked in the restaurant for a year when I got a job at Schneider.

FUTURE PERFECT TENSE



I will have worked for Schneider two years in September.

ACTION VERBS - CONJUGATION - SAMPLE SENTENCES

SIMPLE PRESENT TENSE

I work at Schneider.

PAST TENSE

I worked in a restaurant last year.

FUTURE TENSE

I will work at Schneider for many years.
I'm going to work at Schneider for many years.

PRESENT PERFECT TENSE

I have worked at Schneider since 1989.

PAST PERFECT TENSE

I had worked in the restaurant for a year when I got a job at Schneider.

FUTURE PERFECT TENSE

I will have worked for Schneider two years in September.

DIRECTIONS: Below is a "Change Application for medical insurance. Complete the necessary parts of the form to add a new dependent to your medical insurance.

SITUATION: You got married on August 3.
If you married a woman, her name is Jane Smith.
If you married a man, his name is John Smith.
Your new spouse was born June 13, 1962.

CHANGE APPLICATION

Company Name ______________________ Plan I.D. No. [redacted]

Employee's Name (As appears on I.D. card) ______________________ Social Security No. ______________________

Reason for Change ______________________

☐ Delete Employee
Effective Date ______________________ Reason Code [redacted] Refund [redacted]

☐ **Changes** to employee (enter **only** those data elements you wish to change)

Effective Date [redacted]

Name ______________________

Address ______________________

City ______________ State ______________ Zip ________

County ______________________

Home Phone ______________________

Class Code [redacted] Effective Date [redacted]

Dept. Billing No. ______________________

Marital Status ______________________

Date of Birth ______________________

Marriage Date ______________________

Date of Divorce ______________________

☐ Change/add Dependents (NOTE: Principal place of residence must be with subscriber)

Check appropriate box	Dependent number within family	Full Name	Relationship	Sex	Birth Date Mo. Day Year	Eff. Date of Change Mo. Day Year	Reason Code
☐ Change ☐ Add ☐ Delete	01		Spouse (If no spouse listed leave space blank)		/ /	/ /	
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						
☐ Change ☐ Add ☐ Delete	*						

On behalf of myself and any dependents listed above, I hereby apply for change(s) to my coverage under the Plan Master Group Contract.

I understand that the benefits for which I (we) shall be eligible are in accordance with those described in such Master Group Contract and any amendments or addendums provided for hereto. I further understand that certain services may require a copayment payable by me (or my dependents).

I authorize the above change(s) and my employer's deduction of the necessary contribution amounts, if any, from my wages or salary with the understanding that my employer acts as my agent in all dealings with the Plan, and that all acts performed by my employer and all notices given to my employer in such dealings are binding upon me, as not prohibited by statute or regulation.

In the event that this Application is accepted, I authorize any physician or other provider of health services to provide the Plan (or its authorized agent), upon request, any information concerning the health condition or treatment of any person included under such coverage whenever such information is considered necessary by the Plan for the proper disposition of a claim submitted for payment or in fulfillment of obligations imposed on the Plan by state or federal statutes.

I certify that any information shown above is correct and my signing below indicates that I understand that all information given is subject to verification

X ENROLLEE SIGNATURE ______________________ DATE ______________

COMMENTS FROM CLOSURE LETTERS THAT STUDENTS WROTE--AUGUST 7, 1991

Students were asked to write a letter expressing what they learned that helped them to become more competent and confident on their jobs. They were also asked to include what they would like to study and learn more about in the future parts of the Skills Enhancement Program. Following are comments from those letters:

- "The most important thing is that we learned how to listen to people when they speak fast."
- " I learned how to do my next job. So I already learned the process before getting into it."
- " We (non-English speakers) don't understand the process so we can't do the job. Now we can read the process sheets."
- " This company is good because it supports an employee who wants to learn some more."
- " I learned how to write dialogues and had fun speaking them on the tape and listening to my voice".
- "What I learned related to my job. I don't need to ask my group leader what to do on the job anymore."
- "I understand how to do the job right, now."
- " I don't have to ask my group leader too many times."
- " I want the company to have a program continuously."
- " Class helps me pronounce the words I need on my job. I don't know the way to talk or discuss with American people. Now I know better than before how to talk. When I talk to supervisors, I feel free to ask and get along with them."
- " I had a hard time to read and understand. Now I feel better with reading a lot of new words that I didn't know before."
- "Sometimes I have a problem on the production floor, but it is hard for me to tell or explain to group leader . Sometimes I don't understand what my group leader said to me. After this class, I don't have so many problems."
- "Thank you ESL class!"

WORKPLACE

MATERIALS

SCHNEIDER ACRONYMS

SAMPLE PROCESS SHEET #1 TEXTBOOK

"PROCESS SHEET OF THE WEEK"

VOCABULARY

COMPREHENSION

ATTENDANCE RECORD

①

Tuesdays and Thursdays

NAME	DATE & TIME IN/OUT ⊙									
	3/17	3/18	3/24	3/26	3/31	4/2	4/7	4/9	4/14	4/16
Kimsan Chao	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Toudy Manivanh	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Keo Nguyen	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Katy Phomsengdy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oun Ritharak	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Somxay Sophaphanh	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phonsy Sundara	✓	✓	✓	✓	✓	✓	✓	✓	BACK PROBLEMS	BACK PROBLEM
Dong Thamavong	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Malychanh Thephanonxay	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1 2 3 4 5

ATTENDANCE RECORD

②

Tuesdays ~~Mondays~~ and Thursdays ~~Wednesdays~~

NAME	DATE & TIME IN/OUT ⊖									
	4/21	4/23	4/28	4/30	5/5	5/7	5/12	5/14	5/19	5/21
Kimsan Chao	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Toudy Maniranh	✓	✓	✓	✓	A	✓	✓	✓	✓	✓
Keo Nguyen	✓	✓	✓	A	✓	✓	✓	✓	✓	✓
Katy Phomsengdy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oun Ritharak	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Somxay Sophaphanh	✓	✓	A	✓	A	✓	✓	✓	✓	✓
Phensy Sundara	✓	A	A	A	A	A	A	A	A	A
Dong Thamavong	✓	✓	A	✓	✓	✓	✓	✓	✓	✓
Malychanh Thephanonxay	FUNERAL	✓	✓	✓	✓	✓	✓	✓	✓	✓
	6		7		8		9		10	

ATTENDANCE RECORD

①

Mondays and Wednesdays

NAME	DATE & TIME IN/OUT ⊘									
	3/16	3/18	3/23	3/25	3/30	4/1	4/6	4/8	4/13	4/15
Khampiou Keomanphone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Renata Oszast	✓	✓	✓	✓	✓	✓	✓	✓	✓	A
John Slater	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ching Vang	A	A	A	✓	✓	✓	✓	✓	✓	✓
True Xiong	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1 2 3 4 5

ATTENDANCE RECORD

②

Mondays and Wednesdays

NAME	DATE & TIME IN/OUT ⊖									
	4/20	4/22	4/27	4/29	5/4	5/6	5/11	5/13	5/18	5/20
Khampiou Keomanphone	✓	✓	✓	✓	✓	✓	A	✓	✓	✓
Renata Oszast	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
John Slater	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ching Vang	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
True Xiong	✓	✓	✓	✓	✓	A	✓	✓	✓	✓

✓ ✓ ✓ ✓ ✓

6 7 8 9 10

WEEK 1

LESSON #1

Objectives/Activities:

- * To become familiar with the students - their educational background, skill required for present job, and goals. Students filled out questionnaire. As conversation evaluation and practice, they discussed jobs in pairs - what's easy and what's difficult. Each student reported to the class on their partner's comments.

- * For the students to be familiar with the course outline and expectations and for them to add anything else they had hoped for or expected in this course.

  Discussion of Course Outline:

  1. Following Directions activities, Before the Bell Rings
  2. Timed Readings
  3. Vocabulary Development
  4. Course Packet: Reading and Understanding Process Sheets
  5. Students' Individual Process Sheets - Vocabulary and Comprehension Activities
  6. Pronunciation

- * To introduce method of teaching and practicing following spoken directions and developing pronunciation skills Before the Bell Rings (BBR) pp. 1-3 (M/W) pp. 6-8 (T/Th)

- * To understand acronyms used at Schneider. Reviewed commonly used acronyms orally. Provided handout of acronyms.

- * To introduce method of reading and charting timed readings. Students read Timed Reading #1 "The College Library and filled out their individual charts. They also worked on finding information from a diagram and practiced vocabulary for spatial relationships, using the diagram of a library.

LESSON #2

Objectives/Activities:

- * To practice following directions and vocabulary building. Before the Bell Rings pp. 4-7 (M,W) pp. 9,11,16 (T,Th)

- * To introduce reading skills necessary for understanding process sheets better.

  Course Packet pp. 1-6 Introduction and practice with skimming sample Process Sheet #1

- * To introduce vocabulary from Process Sheet #1.

  Students discussed the meanings and alphabetized the list.

WEEK 2

LESSON #3

Objectives/Activities:

- To practice following directions and vocabulary building of vocabulary of placement and position.
  BBR pp. 9,11,16 (M,W) pp. 18-19 (T,Th)

- To review vocabulary for position.
  Students practiced the vocabulary while looking at diagram of library. Worked on sentence completion and finding information from graphics.

- Timed Reading #2 "Tougher Standards Urged".
  Pre-reading Discussion Questions: What aspects of education are important in the schools in your countries? How important is literacy in the United States? How important is literacy to you and to Schneider?

- To familiarize students with parts of speech in preparation for section on instruction words in packet and using the dictionary.
  Discussed the definition of each part of speech, brainstormed examples, and practiced recognition.

LESSON #4

Objectives/Activities:

- To practice following directions and vocabulary of shapes and placement.
  BBR pp. 18,19 (M/W) pp. 20,21 (T,Th)

- To continue teaching and practicing recognition of parts of speech.
  Handout: "Knowing parts of speech"
    - reviewed definitions and examples
    - looked at words with different parts of speech
    - worked on vocabulary building
    - began studying suffixes and how they affect parts of speech.

WEEK 3

LESSON #5

Objectives/Activities:

- * To practice following directions and vocabulary of shapes and placement.
  BBR pp. 20, 21 (M/W) pp. 22,23 (T/Th)

- * Timed Reading #3 "Test Anxiety"
  Pre-reading discussion questions: Have you ever felt anxious on the job? What have you felt anxious about and what did you do about it? What else could you have done?

- * To introduce parts of speech as essential for building vocabulary and understanding how new vocabulary is used in context.
  Handout: Parts of Speech - definitions and examples.

- * To begin compiling vocabulary needed for Schneider.
  Handout: "Build Your Own Dictionary". Students began adding new vocabulary from class and from their process sheets to their own dictionaries to used on the floor when needed.

LESSON #6

Objectives/Activities:

- * To practice following directions and vocabulary (placement and instruction words).
  BBR pp. 22, 23 (M/W) p. 24 (T/Th)

- * To continue practicing parts of speech and dictionary use.
  Handout: Parts of Speech.
  Packet: pp. 7-9 Using the Dictionary.
  Handout: More exercises on using the dictionary and finding the correct definition according to the part of speech.

WEEK 4

LESSON #7

Objectives/Activities:

- To practice following directions and vocabulary
  BBR p. 24 (M/W) p. 25 (T/Th)

- Timed Reading #4 "Workaholism"
  Pre-reading Discussion Questions: What is a workaholic? Are there both advantages and disadvantages to being a workaholic? What are they? How can you work hard, beyond what is typically expected at Schneider, without being a workaholic?

- To introduce suffixes as a means to determine parts of speech.
  Handout: Word Parts. Reviewed suffix rules I - VIII.

LESSON #8

Objectives/Activities:

- To practice following directions and vocabulary.
  BBR p. 26

- To introduce prefixes as a means for building vocabulary.
  Handout: Prefixes. Completed exercises and added prefixes to their own dictionaries alphabetically.

- To practice prefixes as they apply to the job at Schneider.
  Students listed vocabulary words from their own process sheets which began with common prefixes and brainstormed how these words could be used in various work-related sentences.

WEEK 5

LESSON #9

- To practice following directions and pronunciation (phonics and syllable stress of nouns vs. verbs).
  BBR p. 27

- Timed Reading #5 "Cultural Survival, Inc."
  Pre-reading Discussion Questions: How are customs changing in your countries and what are some of the reasons? What customs from your countries were you able to keep when you immigrated to the United States and what customs were you obliged to give up?
  Students practiced finding the main ideas from the reading and discussed how this process was similar to reading new process sheets.

- To learn new vocabulary words from the sample Process Sheet #1 which is used in the packet.
  Went over the definitions as a group and then practiced them by matching strips with the words and the definitions in pairs.

LESSON #10

Objectices/Activities:

- To practice following directions and pronunciation.
  BBR p. 28

- To review steps and vocabulary for Process Sheet #1.
  Packet: pp. 10-15 Scanning practice and comprehension.

- Student Process Sheet and related materials:
  1. Vocabulary List
  2. Vocabulary Practice
  3. Comprehension Questions and Answer Key

WEEK 6

LESSON #11

Objectives/Activities:

- *   To practice following directions, vocabulary, and pronunciation of specific phonics (vowel clusters and /b/ vs. /p/)

- *   Timed Reading #6 "Food Styles"
  Pre-reading Discussion Questions: How is American food different from the food in your countries? How does lunch break at Schneider differ from lunch break in your countries? How do employees differ in their food and manner of eating? What are some of the most popular kinds of restaurants in the United States?

- *   To practice recognizing patterns of documents and prepositions for understanding spatial relationships.
  Packet: pp. 16-19

- *   Student Process Sheets and related materials

LESSON #12

Objectives/Activities:

- *   To practice following directions, understanding parts of speech.
  BBR p. 30

- *   To introduce/review question words and the types of responses expected for each kind of question.
  Packet: pp. 20-21. Students also came up with answers from their process sheets and made up appropriate questions to go with each answer.

- *   To practice using context clues to understand new vocabulary.
  Packet: pp. 22-27.

WEEK 7

LESSON #13

Objectives/Activities:

- * To practice following directions, finding the referent.
  BBR p. 37

- * Timed Reading #7 "Living a Long Life"
  Pre-reading Discussion Questions: How long does the average man and woman live in your countries? What do you think contributes to a long life?

- * Student Process Sheets and related materials

LESSON #14

Objectives/Activities:

- * To practice following directions and vocabulary.
  BBR pp. 37-38

- * To practice identifying instruction words in the context of Process Sheet #1.
  Packet: pp. 28-31

- * To review vocabulary from student process sheets. Students read work-related or non-work-related stories that they had written using the vocabulary from a process sheet.

- * Student Process Sheets and related materials.

WEEK 8

LESSON #15

Objectives/Activities:

- To practice following directions and vocabulary.
  BBR p. 40

- Timed Reading #8 "Regional Customs"
  Pre-reading Discussion Questions: How do the various regions of your native countries differ in their customs? What accounts for these differences? What do you know about the customs of the regions of the United States?

- Student Process Sheets and related materials

LESSON #16

Objectives/Activities:

- To practice following directions and phonics.
  BBR p. 46

- To practice recognizing nouns vs. instruction words in context.
  Packet: pp. 32-36

- Student Process Sheets and related materials

WEEK 9

LESSON #17

Objectives/Activities:

- * To practice following directions and vocabulary
BBR p. 47

- * Timed Reading #9 "Stress"
Pre-reading Discussion Questions: What is stress? How can stress be good? What are some good ways to relieve too much stress from your job or from other areas of your lives?

- * To practice recognizing nouns vs. instruction words in context.
Packet: pp. 36-39

- * Student Process Sheets and related materials

LESSON #18

Objectives/Activities:

- * To practice following directions and vocabulary
BBR p. 48

- * Student Process Sheets and related materials

WEEK 10

LESSON #19

Objectives/Activities:

- To practice following directions and spelling pp. 49-50

- Timed Reading #10 "Breaking Stereotypes: An Inside Look"
  Pre-reading Discussion Questions: What are stereotypes? What did you think all Americans would be like before you came to the United States? How were your ideas different from reality? What are some stereotypes about people from your countries? How do these ideas make you feel? Where do stereotypes come from?

- To review materials and prepare for final evaluation. Student Process Sheets and related materials. Reviewed each student's process sheet and questions individually.

LESSON #20

- Final evaluation

- Employee recognition and certificates

ATTENDANCE RECORD

Mondays and Wednesdays

NAME	DATE & TIME IN/OUT ⊘									

SELF IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

MGT IDENTIFIED GENERAL SKILL IMPROVEMENT AREAS:

PERSONAL GOALS:

1.
2.
3.
4.
5.
6.

LEARNING LOG

Monday , 1992	Wednesday , 1992
Monday , 1992	Wednesday , 1992
Monday , 1992	Wednesday , 1992

KEEP UP THE GOOD WORK!

LEARNING LOG

Tuesday , 1992	Thursday , 1992
Tuesday , 1992	Thursday , 1992
Tuesday , 1992	Thursday , 1992

KEEP UP THE GOOD WORK!

Name:

1. How long have you lived in the U.S.?

2. Did you study English in school before working at Schneider? (Where and for how long?)

3. What process do you work on at Schneider?

4. What is easy for you on the job?

5. What is hard for you on the job?

6. What forms, signs and documents do you read at work?

7. What processes would you like to learn?

8. Why do you want to take the skills enhancement classes?

ACRONYMS GLOSSARY

ADL	Automatic Disposition List
DHR	Device History Record
DMR	Device Master Record
FDA	Food and Drug Administration
FM	Foreign Material
GMP	Good Manufacturing Practices
HEPA	High Efficiency Particle Airfilter
HPG	Hospital Products Group
ID	Inner Diameter
IP	Inspection Process
JIT	Just In Time
LN	Lot Number
MP	Manufacturing Process
MRB	Material Review Board
MSDS	Material Safety Data Sheet
OD	Outer Diameter
OSHA	Occupational Safety and Health Act
PEL	Permissable Exposure Limit
PTCA	Percutaneous Transluminal Coronary Angioplasty
QA	Quality Assurance
QC	Quality Control
SOP	Standard Operating Procedure
SWO	Special Work Order
TCF	Traceability Control Form

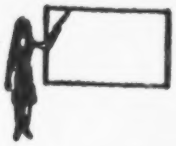
READING AND UNDERSTANDING PROCESS SHEETS

About This Unit

Welcome to this unit on reading and understanding the manufacturing process (MP) sheets and the inspection process (IP) sheets at Schneider. You will learn how to become a better reader and how to improve your *vocabulary* (the words you know). You will learn:

1) How to **skim** a process sheet to get the main ideas
2) How to **scan** a process sheet to find specific information
3) How to increase your vocabulary
4) How to ask questions if you do not understand the process sheets

Skimming To Get The Main Ideas



I. Good readers read some things slowly (like a good book) and some things quickly (like the newspaper). *Skimming* means reading as fast as you can while still understanding what you are reading. When you want to read something quickly, you must decide which parts to read and which parts not to read.

II. How do you decide what to read and what not to read? Here are some ideas:

1. Read all of the first part of the story. This is where the writer explains the main idea.
2. After you understand the writer's main idea, read only the first and last sentences in the other parts of the story.
3. Don't read words like THE, A, AN,. . .. Read only the *content words* (the important words) in the story.

Skimming Practice

Directions: You will have five minutes to read the story on the next page. When you are finished, answer these three questions without looking at the story again.

1. What is the main idea of this story?
2. Where do immigrants come from?
3. Why are immigrants important?

Skimming Exercise: U.S. Immigration*

The U.S.A. is a country of immigrants. The first immigrants moved to the U.S.A. over 350 years ago. More than 50 million immigrants have come to the U.S.A. since 1607. They are from many different countries all over the world.

Since 1960, many immigrants have come from South America and Asia. Most of them live in the South and West. Between 1970 and 1980, immigrants filled 70% of the new jobs in Los Angeles, California. Immigrants are an important part of the economy in the U.S.A.

*Adapted from ESL for Action, E.R. Auerbach & N. Wallerstein, (1987)

Skimming Process Sheets

How can you learn to skim process sheets? Here are some ideas:

1. Read all of the information at the top of the process sheet: **Title of Operation, Document Number,** and **Materials and Equipment Required.**
2. Read all of the information after the words **CAUTION** and **NOTE.** It is important that you understand this information.
3. Read only the first sentence in each step in the **DETAILED PROCEDURE** when you are reading the process sheet for the first time.
4. Look for the content words in each step.
5. *Imagine* (make a picture in your mind) how you will do each step.
6. Do not read words like THE, A, and AN.
7. Look at the *graphics* (diagrams, pictures,...) and make sure you understand them.
8. Make a list of any words or steps you do not understand.

During The First Reading

I. Read Process Sheet #1 in your Documents Booklet. Circle any words you don't understand. You can use your dictionary to find the meaning of these words during the second reading. Ask yourself these questions when you are reading:

1. Where do I find the name of this operation, the document number, and the quantity of the materials and equipment I will need?
2. Are there any NOTES or CAUTION statements?
3. What are the important steps in this process?
4. Do I understand the graphics?

II. Read the entire process sheet now. You will have 10 minutes to skim Process Sheet #1.

6

After The First Reading

How many of these questions you can answer without looking at Process Sheet #1 again?

Directions: Circle the correct answer.

1. This document was a (an)

   A. Manufacturing Process
   B. Inspection Process

2. The document described

   A. Leak testing
   B. Cleaning parts
   C. Degreasing parts

3. There were ______ NOTE statements.

   A. several (2-3)
   B. no (0)

4. The picture in the document was of a (an)

   A. Balloon Products Pressure Tester
   B. PVC Tube Assembly
   C. OHM Meter

5. The words "Freon TE vapor zone" are important words (content words) for this procedure.

   A. True B. False

7

Using The Dictionary

I. The dictionary gives you the meanings of a word. The dictionary also tells you how to pronounce a word. It gives you the spelling of a word. The dictionary also tells you if the word is a *noun* (a person, place, or thing), a *verb* (an action word), an *adjective* (a word that describes a noun), or an *adverb* (a word that describes a verb).

II. These words are not in alphabetical order. Arrange these words alphabetically.

verify
below
water
clean
meter
flow
minimum
supervisor

____

____

____

____

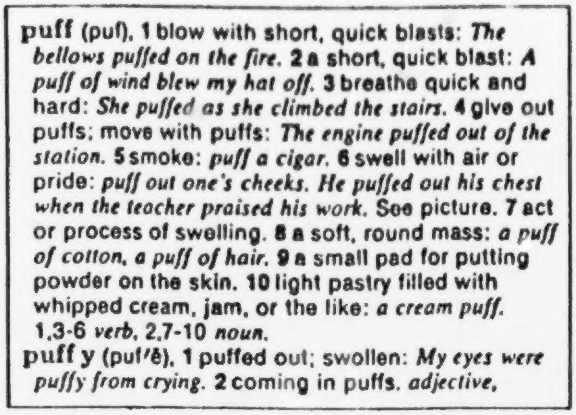
____

____

____

____

III. Study the dictionary entry below. Then answer the questons about this entry.*



puff (puf), 1 blow with short, quick blasts: *The bellows puffed on the fire.* **2** a short, quick blast: *A puff of wind blew my hat off.* **3** breathe quick and hard: *She puffed as she climbed the stairs.* **4** give out puffs; move with puffs: *The engine puffed out of the station.* **5** smoke: *puff a cigar.* **6** swell with air or pride: *puff out one's cheeks. He puffed out his chest when the teacher praised his work.* See picture. **7** act or process of swelling. **8** a soft, round mass: *a puff of cotton, a puff of hair.* **9** a small pad for putting powder on the skin. **10** light pastry filled with whipped cream, jam, or the like: *a cream puff.* 1,3-6 *verb,* 2,7-10 *noun.*

puff y (puf′ē), 1 puffed out; swollen: *My eyes were puffy from crying.* **2** coming in puffs. *adjective,*

1. How many definitions are given for the word "puff"?____________________
2. Which definitions are for "puff" as a noun?____________________
3. Which definitions are for "puff" as a verb?____________________
4. Use definition #2 in a sentence of your own.____________________
5. Is "puff" in definition #5 a noun or a verb?____________________

*from C.M. Starkey & N.W. Penn, What You Need To Know About Reading Ads, Reference Materials & Legal Documents, Illinois: National Textbook Company, 1987, p. 44.

IV. Now find the definitions for these 4 words in your dictionary. Did you know all of these definitions?

1. VERIFY:____________________
2. METER:____________________
3. MINIMUM:____________________
4. FLOW:____________________

V. Here are some other words from Process Sheet #1. Look at the context and see if you can guess the meaning. Circle the clues in each sentence.

EXAMPLE: Check the log sheet...**to insure** that the maintenance has been performed...

CLUE: *Check*=to verify, to make certain
So **to insure**=check something so that it is certain to happen

1. Hold basket or bodystock above Freon TE vapor zone and allow Freon **to drain** from parts.

DEFINITION:______________________

2. Tap basket once or twice against the side of the degreaser to help remove **excess** Freon.

DEFINITION:______________________

3. Next, **dip** the basket up and down...

DEFINITION:______________________

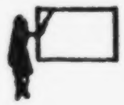
4. Dip the basket or body stock in the alcohol tank and gently **sway** the parts back and forth.

DEFINITION:______________________

5. **Immerse** parts in cool sump ... and gently **agitate**.

DEFINITIONS:_____________________

Scanning To Find Specific Information



I. *Scanning* means reading to find specific information. Scanning is very important for reading process sheets. If you are looking for specific information on a process sheet, then you are scanning the process sheet. You also scan the telephone book when you are looking for someone's telephone number.

II. How do you scan to find information quickly? Here are some ideas:

1. Learn the *arrangement* (the way information is organized). Most documents are arranged by letter (A is first, B is second, . . .) or by number (1 is first, 2 is second, . . .).

2. Look for content words that will help you find your information.

3. Don't read words like THE, A, An, ... Read only the content words.

SCANNING PRACTICE

Directions: You will have 5 minutes to scan the telephone list and find the answers to these questions:

1. What is the number for Martino Fernandez?

2. What is the number for Filbert Tool & Die Company?

3. How many people with the name of Fernandez are there?

4. Whose telephone number is 555-7083?

TELEPHONE DIRECTORY

Fernandez, Lola 141 State St.	555-8332
Fernandez. M. 4245 Burt Rd.	555-7899
Fernandez, M.L. 223 Orange Bl.	555-8254
Fernanadez, Martino 8610 Gladstone Av. Bloomington	555-4149
Filbert, Abbott 61 N Park Pl	555-7083
Filbert, Alvin 2109 2nd Av.	555-3321
FILBERT TOOL & DIE CO 44 Main St.	555-8866
Filbert, Stanley 621 Cherry Ln.	555-5461

Scanning Process Sheets

How can you learn to scan process sheets? Here are some ideas:

1. Learn the arrangement for process sheets:

   -Where is the **Title of Operation** always located?

   ANSWER: ______________________________

   -Where is the **Document Number** always located?

   ANSWER: ______________________________

   -Where is the **QTY** (quantity) and **Document Number** for the **Materials and Equipment Required** always located?

   ANSWER: ______________________________

   -What is the standard *format* (appearance) for notes (NOTES:) and caution (CAUTION:) statements?

   ANSWER: ______________________________

   -What is the standard arrangement for the DETAILED PROCEDURE section (by letter or by number)?

   ANSWER: ______________________________

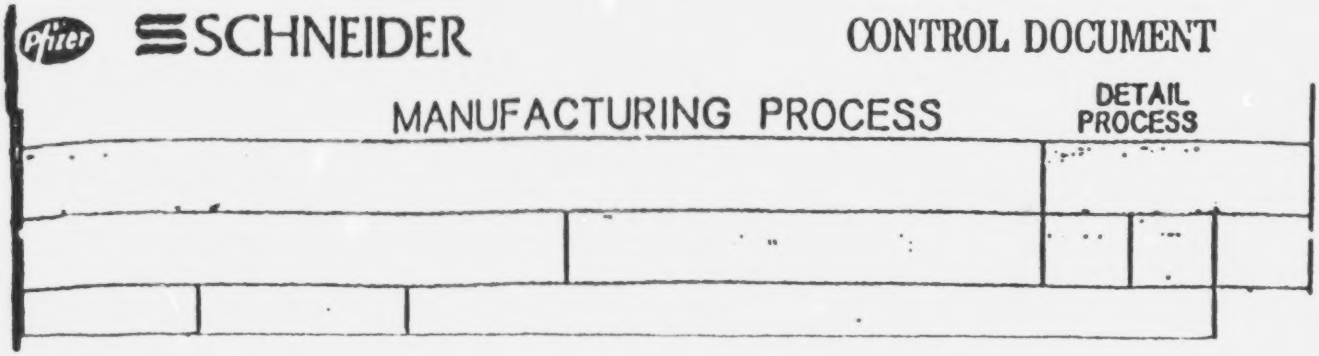
2. Learn the *high frequency words* (words that are used a lot) for each process sheet in this module.

3. Learn the *technical words* (words with special meaning for people who work at the same company) for each process sheet in your cell.
4. Make sure you understand the main idea of each step in the process.

During the Second Reading

Directions: Now read Process Sheet #1 a second time. Look for the answers to these questions:

I. What information is found in each box on the process sheet? Write the correct word(s) in the boxes from the list below.



Pfizer SCHNEIDER CONTROL DOCUMENT

MANUFACTURING PROCESS DETAIL PROCESS

1. DATE
2. ISSUE
3. DOCUMENT NUMBER
4. PAGE
5. TITLE OF OPERATION
6. REVISED BY
7. OP NO
8. DOCUMENT NUMBER (for materials and equipment)
9. MATERIALS AND EQUIPMENT REQUIRED
10. QTY

II. Write a short answer for each question. Write where you found the answer.

EXAMPLE: When must clean gloves be worn?

1. Which end of the guiding catheter should be cleaned?

2. Why should the log sheet be checked for all of the equipment?

3. How should the parts be placed in the cleaning basket?

4. Can all types of bodystock be placed in the cleaning basket?

5. How long should the basket or bodystock be placed in the Freon TE vapor zone?

6. What should you do if the OHM read out is below 1.50?

7. Where is the GraLab timer located?

8. How often should the isopropyl alcohol tank be changed?

9. How long should parts be in the cool sump?

10. What should be done with the clean parts?

15

REVIEW OF IMPORTANT WORDS

I. Directions: Fill in the blanks with words from the list below.

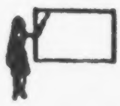
1. A ______________ tells us the meaning of words.
2. ________________ are important words.
3. There is a ______________ of 5 students in the class and a maximum of 10 students.
4. If I see the word ______________, I should be careful.
5. ______________ helps me to read the MP sheet faster.

minimum
dictionary
content words
skimming
caution

II. Directions: Match the words in A with their meaning in B.

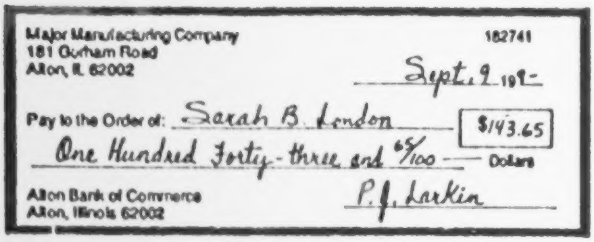
A	B
_____ immigrants	1. to say a word
_____ spell	2. to tell someone how to do something
_____ pronounce	3. the most important idea
_____ explain	4. people from another country
_____ main idea	5. to write a word

Discovering Patterns



I. You have learned that process sheets are arranged by numbers. You have also learned that the Title of Operation, the Document Number, . . . are in the same place on every process sheet. This information will help you to skim and scan process sheets.

II. Many things that you read or write have a pattern. Look at the two checks below. Answer the questions to help you discover the pattern.*



Major Manufacturing Company
181 Gorham Road
Alton, IL 62002

182741

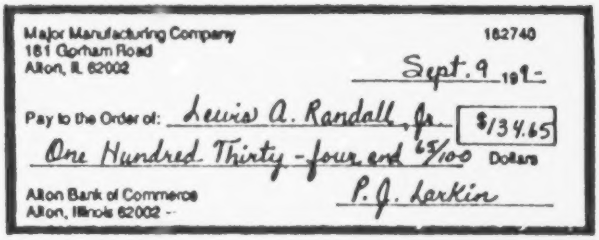
Sept. 9 199-

Pay to the Order of: Sarah B. London $143.65

One Hundred Forty-three and 65/100 Dollars

Alton Bank of Commerce
Alton, Illinois 62002

P. J. Larkin



Major Manufacturing Company
181 Gorham Road
Alton, IL 62002

182740

Sept. 9 199-

Pay to the Order of: Lewis A. Randall, Jr. $134.65

One Hundred Thirty-four and 65/100 Dollars

Alton Bank of Commerce
Alton, Illinois 62002

P. J. Larkin

*adapted from R.J. Park et al. Reading for Workplace Success, Minnesota: Paradigm Press, 1991, p. 204.

1. Where is the company's address? ______________________

2. Where is the date? ______________________

3. What follows the words "Pay to the Order of:?

____

4. What follows the $ sign? ______________________

Pattern Practice

I. Many words are also arranged in the same place on the process sheet. You will be able to skim and scan faster if you learn the words that are *repeated* (used many times) in a process sheet.

Directions: Look at Process Sheet #1 again. Count the number of times you see these words in the process sheet.

PHRASE	NUMBER OF OCCURRENCES
1. "Hold basket or bodystock"	
2. "in Freon TE vapor zone"	
3. "tap basket"	

II. Did you notice that the words "Hold basket or bodystock," "in Freon TE vapor zone," and "tap basket" came at the same place in each step in the DETAILED PROCESS?

Look at the words, "Hold basket or bodystock".

1. How many times did these words come at the beginning of a sentence?

   ____

2. How many times did these words come in the middle of a sentence?

   ____

3. How many times did these words come at the end of a sentence?

   ____

III. Now look at the words that followed the words, "Hold basket or bodystock". Write down three of the words that come after "Hold basket or bodystock".

1. ____________ 3. ____________

2.____________

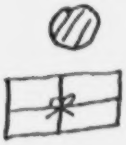
Understanding Prepositions

I. The words that follow "Hold basket or bodystock" are *prepositions*. Prepositions are words that tell us about location. The word "above" tells us that we should hold the bodystock over the Freon TE vapor zone. The word "in" tells us that we should hold the bodystock inside the vapor zone. It is important to understand the meaning of prepositions.

II. Your teacher will ask you to show that you understand the meaning of these prepositions. Do you know all of them?

Directions: Write a sentence and draw a picture using each of these prepositions.

EXAMPLE: Above: The ball is above the box.



1. Across

____

2. Below

____

3. Behind

____

4. In

____

5. Next to

____

6. On

____

7. Over

____

8. Under

____

Using Question Words

I. Directions: Complete each question with one of the words below. Then write an answer using one of the prepositions from above. Follow the example.

Who What Where Why How

EXAMPLE: __________ is my MP book under the table?

____

1. __________ put this tray of parts next to the door?

____

2. ________ number is below .5?

____

3. ________ will I find out about the Schneider picnic?

____

4. ________ sits across from you on the floor?

____

5. __________ are the safety goggles kept behind the door?

____

II. Your teacher will now show you some things you might use at Schneider. Write questions about these things using prepositions and question words.

1.____

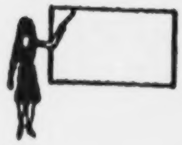
2.____

3.____

4.____

Using Context Clues

I. You can learn many new words if you look at the words that come before and after the word you don't know. The other words in a sentence give us *clues* (information that helps us discover an answer) about the meaning of the new word.



II. Directions: Try to guess the meaning of the underlined word from its context. Write your guess on the line.*

1.The police pulled a car over to the curb. The police saw the driver conceal something under his coat. The police made the driver lean up against his car. They wanted to find what he had concealed under his coat.

CONCEAL: ______________________________

2.The wind blew 50 miles an hour at the men. There was a lot of snow. It was very cold. The snow, the wind, and the cold hampered their attempt to pull their car out of the snow.

HAMPER: ______________________________

3.When we grew up in a small town, we trusted everyone. Now in the big city we are suspicious. We don't like to open our doors to people we don't know.

SUSPICIOUS: ______________________________

4.The basketball player looked gigantic when he stood next to his very short wife.

GIGANTIC: ______________________________

*adapted from Building Basic Skills in Reading (1988), Chicago: Contemporary Books, pp. 123-130.

III. Directions: Now look up these four words in your dictionary. Did you guess the correct meaning of the words?

DICTIONARY DEFINITIONS:

CONCEAL:____

HAMPER: ____

SUSPICIOUS: ______________________________________

GIGANTIC: _______________________________________

IV. Directions: Listen to the paragraph from Process Sheet #1 while your teacher reads it out loud. Fill in the missing words. Afterwards, you will try to guess the meaning of these words using clues in the sentence.

(1) ___________ that the deionized water system is working properly.

(2) Check the ___________ meter for a minimum flow of

(3) 5 GPM and the OHM ________ ________ for a minimum of 1.50.

(4) If either one is below the ___________, do not clean parts.

(5) __________ your supervisor.

V. Look carefully at the words before and after the missing words. What words give us clues about the meaning of each missing word? Circle these words. What do you think each missing word means? Write your definitions below.

(1)______________________________

(2)______________________________

(3)______________________________

(4) ______________________________

(5)______________________________

REVIEW OF IMPORTANT WORDS

I. Directions: Write T if the answer is true and F if the answer is false.

_____ 1. I can write a **check** when I go shopping at K-Mart.

_____ 2. **High frequency words** are words we use a lot.

_____ 3. I wear **gloves** on my feet.

_____ 4. **Bodystock** is something to eat.

_____ 5. What and Where are **question words**.

_____ 6. **Scanning** means reading to find some information.

II. Directions: Put these words in alphabetical order. Then write a sentence with each word.

pattern format read out where why

*1st word: ____________________

Sentence: ____

*2nd word: ____________________

Sentence: ____

*3rd word: ____________________

Sentence: ____

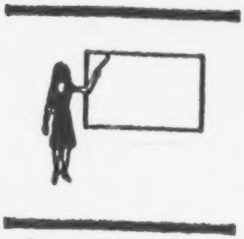
*4th word: ____________________

Sentence: ____

*5th word: ____________________

Sentence: ____

Identifying Instruction Words



I. Some of the words on page 17 are words that tell us what to do during a process. These words are called *instruction words*. Instruction words are used without a *subject* (I, You, He, . . .).

II. For example, in sentence #5 on page 17, the word **immerse** is used without a subject: "Immerse parts in cool sump . . . and gently agitate." This means that YOU are the one who is supposed to immerse the parts in the cool sump.

III. In formal English, we might say, "Would you please immerse the parts?" The writers of the process sheets try to use as few words as they need. The writers will often use instruction words to tell us what to do.

IV. It is important that you understand instruction words because they are used in all of the process sheets. The next page will give you practice in understanding instruction words.

Directions: Look at Process Sheet #1. Every step in the DETAILED PROCEDURE section has at least one instruction word (except for the last step). Circle the instruction words for each step. Write them below. If a word is repeated, only write it down one time.

1. ____________________

2. ____________________

3. ____________________

4. ____________________

5. ____________________

6. ____________________

7. ____________________

8. ____________________

9. ____________________

10. ____________________

11. ____________________

12. ____________________

13. ____________________

14. ____________________

15. ____________________

↓

25.

REVIEW OF INSTRUCTION WORDS

I. Directions: Circle the instruction word above each sentence that best fits in the sentence. Follow the example.

EXAMPLE: check place hold

My supervisor will ____________ my TCF to make sure that there are no mistakes.

1. spray allow tap

I should _______ the bodystock against the side of the basket.

2. press dip add

If you ______ 2 and 2, you will get 4.

3. immerse agitate blow

______ on the wet part until it is dry.

4. pack heat seal fill out

Do you _________ a TCF every day?

5. place press pack

If you _________ the button, you will hear a loud noise.

6. dip agitate hold

You should _______ the hub in cold water and then in hot water.

7. blow immerse heat seal

Should I __________ the tip in alcohol?

8. allow pack fill out

Does your group leader ___________ you to have a break in the mornings?

Checking Your Comprehension

You have learned 28 new words by reading Process Sheet #1--Congratulations! Some of these words are high frequency words and others are technical vocabulary.

Directions: Put an HF next to the high frequency words and a TV next to the technical vocabulary. Be prepared to explain your answers.

COLUMN A

_______ agitate
_______ alcohol tank
_______ allow
_______ blow
_______ check
_______ cool sump
_______ degreaser
_______ deionized water
_______ dip
_______ drain
_______ excess
_______ fill out
_______ flow meter
_______ Freon TE vapor zone

COLUMN B

_______ heat seal
_______ hold
_______ immerse
_______ include
_______ insure
_______ minimum
_______ OHM meter
_______ pack
_______ place
_______ read out
_______ shake off
_______ spray
_______ sway
_______ verify

Directions: Fill in the blanks in the paragraph using some of the words from columns A and B. The first page uses words from column A, and the second page uses words from column B. Remember to use context clues to help you find the correct word.

COLUMN A WORDS: (use each word one time only)

cool sump
check
deionized water
Freon TE vapor zone
degreaser
flow meter
dip
allows
alcohol tank
fill out

Before I start a procedure, I always ________ the process sheet for instructions. The process sheet ________ me to see what kind of equipment I will need for a procedure. For example, in the CLEAN PARTS process, I will need three pieces of equipment to help clean the parts: the ________, the __________, and the _________. I will also use a piece of equipment called a ____________ to help me check the flow of the _________.

The process sheet also tells me what to do with the materials and equipment. For example, I am supposed to hold the bodystock in or above the ____________ five different times during the CLEAN PARTS procedure. During other steps I should ________ the bodystock into the cool sump or alcohol tank. At the end of the procedure, I read that I should _________ the parts cleaning label and the TCF.

IMPROVING YOUR VOCABULARY (Column A words)

I. Which word does not belong? Cross out the word. Explain why that words does not belong. Follow the example.

EXAMPLE: dip alcohol tank check

_____________ does not belong because __________________.

1. agitate allow flow meter

_____________ does not belong because __________________.

2. blow Freon TE vapor zone degreaser

_____________ does not belong because __________________.

3. fill out drain deionized water

_____________ does not belong because __________________.

4. dip flow meter cool sump

_____________ does not belong because __________________.

II. Write the words from Column A in the correct list.

agitate alcohol tank allow blow
check cool sump degreaser dip
deionized water drain

INSTRUCTION WORDS	NOUNS
________	________
________	________
________	________
________	________
________	________
________	________
________	________

COLUMN B WORDS (use each word one time only)

insure
shake off
include
place
heat seal
minimum
verify
pack

Some of the words in the process sheets are technical vocabulary. These words are used to ________ that all the operators who will read the process sheet understand the procedure exactly. For example, the phrase ________ means to shut something using high temperatures. The writers of the process sheets did not want to use the word "close" because it is too general a word for this procedure. Another example of the need for specific vocabulary is in the difference between the words "check" and ________. Both words mean "to test or examine", but one of them also means "to prove or determine". Do you know which word this is?

Other words in the process sheets are used with high frequency in the workplace and in general conversation. For instance, during the winter we often _________ snow from our coats before we go inside, just as we remove extra alcohol from the bodystock. Someone at the grocery store might say, "_______ your grocery bag in the cart," just as we put the bodystock into the alcohol tank. When we _______ our lunch to go to work, we often _______a piece of fruit or something to drink. So if you want to improve your English, you will learn many new words by reading just the _________, the process sheets. However, if you want to make more progress, you could read the maximum number of documents at Schneider and learn more words!

Improving Your Vocabulary (Column B words)

I. Directions: Which word doesn't belong? Cross out that word. Explain why that word doesn't belong.

1.hold include OHM meter

_____________ does not belong because ____________________.

2.pack sway place

_____________ does not belong because ____________________.

3.verify read out shake off

_____________ does not belong because ____________________.

4.heat seal OHM meter sway

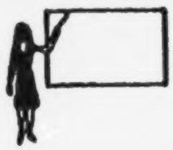
_____________ does not belong because ____________________.

II. Directions: Write the words in the correct list.

heat seal hold immerse include
OHM meter place shake off verify

INSTRUCTION WORDS	NOUNS
____________________	__________
____________________	__________
____________________	__________
____________________	__________
____________________	__________
____________________	__________
____________________	__________

Using Vocabulary In A Context



I. A good way to learn new words is to use one or two new words a day in many different situations. You can use your new words when you talk to your supervisor, your group leader, and your friends. Practice your new words in a *dialogue* (a conversation between two or more people).

Directions: Here are some dialogues that use the vocabulary from Process Sheet #1. Read the dialogues and answer the questions. Then practice these dialogues with a partner.

DIALOGUE 1

A:I checked the log sheet to see if the deionized (D.I.) water system was working. The log sheet wasn't filled out properly. What should I do?

B:You can verify that the D.I. system is working properly by checking the OHM read out. If it's above the minimum, then the system is O.K.

A:What if the read out dips below the minimum?

B:Place the parts in a tray. Hold them until I can see what the problem is. Include a note in the tray to insure that no other operators take the tray by mistake.

Questions For Discussion

1. Who is person A and who is person B (operators, group leaders, supervisors)?

____

2. What is person A's problem?

____

3. Have you ever had a similar problem at work?

____

4. To solve this problem, person A must know how to use what piece of equipment?

____

5. Have you ever used this piece of equipment?

____

6. What do you do when you discover that a TCF has not been filled out correctly?

____

DIALOGUE 2

A:First, dip the basket in the D.I. tank. Then dip it in the alcoholtank and sway the parts back and forth. Shake off the excess alcohol, and finally put the parts in the cool sump and agitate them gently. Any questions?

B:Um. . . I'm not sure about all of those directions. Do "dip"and "sway" mean the same thing?

A:Maybe I should show you how to do this procedure to insure you understand.

___

Questions For Discussion

1.Who is person A and who is person B?

____

2.Why does person A give so many directions to person B at the same time?

____

3.How do you think person B feels about asking person A to define the words "dip" and "sway"?

____

4.Who do you ask when you don't understand a word in the process sheets?

____

Using Vocabulary in a Written Context

Writing new words will also help you to remember them. Many of the new words from Process Sheet #1 are high frequency words that can be used to describe other kinds of processes, such as how to fix a car, how to boil rice, or how to clean your work area.

Directions:Choose 10 words from Columns A and B on page 20. Try to use them to write your own process sheet. (In the example below, the words in **bold** in the DETAILED PROCEDURES section are from Columns A and B.)

You can write about one of the jobs you do at Schneider or something you do at home. Your instructions should be easy for someone else to understand. Before you start writing, answer the following questions:

1. What is the title of your operation (Change the oil on a Ford truck, Leak test guiding catheters, Cook cabbage)?

2. What materials and equipment will you need?

3. Are there any CAUTION or NOTE statements that a someone who has never done this job should read?

4. Would some graphics help to explain this procedure?

5. What are the 5-10 basic steps involved in this procedure? Don't forget to include a step explaining how to clean up at the end of the procedure.

EXAMPLE

TITLE OF OPERATION	DOCUMENT NUMBER
Paint a table	**1**

REVISED BY	DATE	ISSUE	PAGE
Your name	**Today's date**	**1**	**1**

QTY	DOCUMENT NUMBERS REQUIRED	MATERIALS AND EQUIPMENT
1	2"x1"x1"	Wooden table
2	16 oz. cans	Spray paint
2	cotton	Old sheets or t-shirts
1	16 oz.	Bucket
1	gallon	Warm water
3	Star Tribune	Newspapers

CAUTION: This procedure should be done outside or in a room with plenty of fresh air.

NOTE: Only spray one small section of the table at a time to insure that the paint covers the table evenly.

DETAILED PROCEDURE

1.Check the warning labels on the cans of spray paint. Do not use if the heat seal has been broken.

2.Carefully spread the newspapers on the floor and place the table on top of the papers.

3.Dip one of the old sheets in the warm water and wipe off any dirt from the table.

4.Blow on the table or use a fan to allow it to dry faster.

NOTE: The table must be completely dry before you apply the paint.

5.Hold the can of spray paint a minimum of 6 inches away from the table. Spray the table completely until all parts are covered with paint.

6.Allow the table to dry for 6-8 hours.

7.Gently lift the table off of the newspaper and throw them away. Wash the old sheets in warm water and let dry.

Problem-Solving Strategies

I. Now it is time to use your new skills to solve problems at work. We will practice two different problems that you might have at work: (1) asking for help with directions, and (2) asking for help with a problem.

II. You will be asked to *brainstorm* (solving a problem by having many people give their ideas) to come up with solutions. Remember to listen to all of the ideas before you decide what to do.

Questions For Discussion

1.What would you say to someone at a gas station if you needed directions to Duluth (a city in northern Minnesota)?

2.Have you ever needed to ask for directions but not asked an American to help you? Explain what happened.

3.What would you say to your group leader or supervisor if you didn't understand directions?

III. Now listen while your partner reads the first step from the process sheet he or she wrote. Do you understand all of the words in this step? Write questions to ask him or her about the process sheet:

____

Writing Dialogues

The next step is to write a short dialogue. One person explains his or her process sheet and the other person asks questions about it. Make sure that you can say this dialogue without looking at the paper--you may be asked to perform it for the rest of the class!

Write Your Dialogue Here:

Here are some more questions for discussion. Decide how you would ask for help.

Questions For Discussion

1. Your group leader is sitting with another American at break. They are talking very fast and look angry. You are feeling very sick and would like to ask your group leader if you could go home early. What would you say to get his or her attention?

2. A new American employee has just joined your cell. He seems very friendly, but you have never had a conversation with him. You see him sitting alone in the cafeteria and would like to start a conversation. What would you say to him?

3. Your supervisor walks by and sees that you are not working on anything. She seems angry because your cell has a lot of work to finish. You are waiting for another operator to return from break and explain to you how to use the D.I. water system. How would you explain your situation to your supervisor and ask her for help?

Here are some ways to start a conversation so that you can ask for help. Add your ideas to these lists*:

Polite Opener	Stating the Problem	Asking for Help
Excuse me.	I'm having trouble with ____	Could you help me?
I'm sorry.	I'm having a hard time with __	What should I do?
Do you have a minute?	I need some help with ____	Where should I ask for help?
	I can't find ____ and I'm not sure what to do.	
Would you mind if I ____	I don't know how to ____	
	I ran out of ____	
Would it be OK if I____	There's something wrong with ____	

*List adapted from ESL for Action, Auerbach & Wallerstein, 1987.

Writing Dialogues

Pick one of the problems below and prepare a dialogue with your partner. Before you begin, decide which role each of you will play: operator, group leader, or supervisor. Try to use some of the phrases from page 32 in your dialogue.

1. Your glasses broke and you need to go to the nurse.
2. You're finished with your assignment and need something else to do.
3. You don't understand the phrase "gently agitate".
4. Your machine isn't working properly.

Write Your Dialogue Here:

Evaluating the Unit

You have finished the Process Sheet #1 unit--Congratulations! Please answer the questions below so we can improve this unit. Do not put your name on this form.

1. What skills did you learn or improve in this unit?

2. Are these skills related to your job at Schneider?

3. Which activity did you find the most useful?

4. Which activity did you find the least useful?

5. Which activities did you like the most?

6. Which activities did you like the least?

7. Did you find the unit too difficult, too easy, or just right?

8. Did your teacher explain the material clearly or were you confused sometimes?

9. How well did you understand your classmates during group discussions and pair work?

10. What suggestions do you have for improving the English class?

DEFINITIONS FOR PROCESS SHEET #1

Process Number: 820291-001

Directions: Cut these into strips. In teams, students match the definitions with each vocabulary word as quickly as they can.

with no specific pattern or order

mist, fumes, smoke, suspended in the air

reduced by evaporation/more concentrated

prepared, made ready

to make impure or dirty (F.M.)

too much, more than what is needed.

to cover completely in a liquid

keeping in the proper condition

a space between to objects or points in time

whole, complete

not violently

something which removes grease

especially clean water

in the right way

to rest or press on

to move with violence or sudden forcefulness

to move back and forth with a swinging motion

to count up (v.) or a list of added things (n.)

having digits

to show as

to keep in proper working condition

Monday/Wednesday Class

VOCABULARY LIST # 2

Process Number: 560220-xxx

1. proximal end
2. duration
3. distal end
4. activate
5. verify
6. legible
7. illegible
8. orient
9. prior to
10. rewipe
11. remove
12. disposable
13. scope
14. excess

Monday/Wednesday Class

VOCABULARY PRACTICE #2

Process Number: 560220-xxx

1. The opposite of the distal end is the ____________________.

2. Hold in place for the ____________________ of the cycle (until it is finished.)

3. To start the dispense cycle, you must ____________________ the foot switch.

4. Make sure or ____________________ that the print is readable or ____________________.

5. If the print is ____________________, then don't use it.

6. The heat shrink printing must face the distal tip, so you must ____________________ it in that direction.

7. ____________________ this class, you all work very hard.

8. If the kitchen table gets dirty again after you have wiped it, you must ____________________ it.

9. If there is any FM on the proximal end of the outer member tubing, ____________________ it by wiping with a ____________________ wipe.

10. If you want to make sure the restaurant has good food and prices, you need to ____________________ the menu before ordering.

Monday/Wednesday Class

COMPREHENSION #2

Process Number: 560220-xxx

1. When should you wear gloves:

2. What should you do with the proximal end of the outer member assembly and how long should you hold it in place?

3. What do you do to start dispense cycle?

4. In Step 3, what do you:
   a. slide
   b. verify
   c. orient

   Instruction Words

5. How do you blow the antistatic air through the manifold?

6. Why do you do this?

7. How long do you do this?

8. In Step 5, what does "both parts" refer to?

9. What should you make sure of in Step 5?

10. When you trim the outer member, what is important to remember?

11. When should you disconnect the air and refill the Freon reservoir?

12. What do you do before inserting the inner member into the outer member?

13. What kind of disposable wipe should you use to remove any F.M.?

14. If you find any F.M. in Step 13, what should you do?

15. What else might be a problem, and how should you solve this problem?

16. What is the final step of this operation?

Monday/Wednesday

COMPREHENSION ANSWER KEY #2

Process Number: 560220-xxx

1. During steps 1 - 4, 10 and 11
2. Place it over dispensing needle, hold it in place for the duration of the cycle.
3. Activate foot switch.
4. a. One piece of printed heat shrink onto the proximal end of the outer member assembly.

   b. legible print on heat shrink.

   c. heat shrink printing so that it reads towards the distal tip.
5. via the side luer
6. to remove possible FM
7. for approximately 5 seconds.
8. the inner and outer members
9. that marker band is placed within the working area of balloon.
10. Make sure part is cut squarely.
11. When freon reservoir is empty.
12. Wipe inner member down with Isopropyl alcohol and a disposable wipe.
13. dampened with isopropyl alcohol.
14. pull inner member out of the outer member and repeat steps 1,2,9,10,11,12.
15. Excess glue -- pull inner member out of the outer member, remove glue and repeat steps 9 - 12.
16. Complete TCF

(Monday/Wednesday Class)

VOCABULARY LIST #3

Process Number: 820090-003

1. appropriate
2. allow
3. maximum
4. verify
5. probe
6. dimensions
7. proper
8. approximately
9. reference
10. unacceptable
11. undergoing/undergo
12. insert
13. tapered

(Monday/Wednesday Class)

VOCABULARY PRACTICE #3

Process Number: 820090-003

A. Add the words from this list to your dictionary. Be sure to include the part of speech and a sentence of your own using the word.

B. Make up a story with your group using each of the following words at least once.

allow
appropriate
proper
minimum
maximum
approximately
unacceptable
dimensions

(Monday/Wednesday Class)

COMPREHENSION #3

Process Number: 820090-003

Flare/Reflow Stem (Conventional)

Page 1--Flare Procedure:

1. What do you check the temperature with?

2. When is the machine ready for operation?

3. What end of the stem should you place onto the hot spike? What will help you to understand this step?

4. What is unacceptable?

   What is another word or phrase which means the same thing as unacceptable?

5. How long should you leave the stem on the cooling block?

Page 2 -- Reflow Procedure:

6. What should you do with the mandrel?

7. Where does the heat shrink go first?

8. Then where does the heat shrink go?

Page 3

9. When the catheter is assembled, where does the heat shrink go?

10. How long should the jaws be closed?

11. How long should the catheter cool before removing the mandrel?

12. How do you pull out the mandrel?

13. What problem might occur, and what should you do?

14. How should you trim the end of the stem or teflon?

15. How long should the stem be after trimming?

16. What is the final step of this procedure?

Page 1 -- Reflow Start-up and Cut Opens

17. When should you contact a group leader or supervisor?

18. What does Table 1 tell you?

19. When you cut the start-up catheters, how long should they be? At what side do you start?

20. What do you check? What do you cut, peel back?

21. When do you proceed to appropriate steps 5 - 7?

22. What are the two reasons why you would contact your group leader or supervisor?

Page 2 -- Reflow Start-up Monitor Sheet

23. What do you:

Instruction Words

a. fillout
b. record
c. attach
d. reflow
e. trim
f. check
g. cut
h. peel back

24. How do you avoid mixing lots if cell 1 is not empty?

25. How long should the reworked parts be in the dryer?

26. What does the dryer do?

27. When do you add the bodystock to the rest of the lot?

(Monday/Wedesday Class)

COMPREHENSION ANSWER KEY #2

Process Number: 820090-003

1. pyrometer

2. After operating temperature has been reached, approximately 3 minutes.

3. profiled end

   Reference Figure 1

4. Rollover of flare

   not acceptable, scrap

5. until cool

6. insert it into tip end of stem.

7. onto tapered end of bodystock

8. over flare

9. between reflow jaws

10. approximately 30 seconds

11. a minimum of 3 minutes

12. Cut off heat shrink with cutter. Place mandrel block up against stem and pull it out.

13. Wire does not pass through reflow area -- contact group leader or supervisor.

14. until teflon is flush with the end of the stem.

15. at least 1.0"

16. complete TCF

17. if an acceptable start-up is not achieved after 3 attempts.

18. appropriate dimensions

19. 2 inch lengths

20. 2 start-up catheters for wires and pits

start-up catheters

teflon

21. if reflow area is unacceptable

22. a. if any combination of reflow wires,. pits, or unacceptable ID of reflow are found.

b. if unidentified defects are found.

23. a. reflow start-up sheet

b. temperature

c. the 2 acceptable start-up catheters on the reflow start-up sheet.

d. 8 more start-up catheters

e. reflowed catheters

f. O.D. of the 8 start-up catheters for wire and pits.

g. 8 start-up catheters through the reflow area.

h. teflon

24. Rework bodystock must be done on one side of cell and JIT lot must be done on the other side.

25. 1/2 hour

26. removes moisture

27. after bodystock has been reworked and reflowed.

(Monday/Wednesday Class)

VOCABULARY LIST #4

Process Number: 820026-001

1. select
2. match
3. shaft
4. installed
5. thread (v.)
6. deactivate
7. dislodge
8. revolution
9. spool
10. groove
11. splice
12. resplice
13. indicate
14. specification
15. defective
16. clockwise, counterclockwise
17. persist
18. embedded
19. critical
20. receptacle

(Monday/Wednesday Class)

VOCABULARY PRACTICE #4

Process Number: 820026-001

A. Complete the chart below to include all the parts of speech. The first one is done for you as an example. Refer to your dictionary when necessary.

1. select
2. match
3. installed
4. revolution
5. splice
6. indicate
7. specification
8. defective
9. persist
10. critical
11. embedded
12. dislodge

	NOUN	ADJECTIVE	VERB
1.	**selection**	**selected, selective**	**select**
2.			
3.			
4.			
5.			
6.			
7.			
8.			**XXXXXXXXXX**
9.	**XXXXXXXXXX**		
10.	**crisis**		**XXXXXXXXXX**
11.	**XXXXXXXXXX**		
12.	**XXXXXXXXXX**		

B. Add all the words on the vocabulary list and their related parts of speech from this page to your dictionary.

(Monday/Wednesday Class)

COMPREHENSION #4

Process Number: 820026-001

SET UP: Page 1

1. What is very important to remember for your safety?

2. When should you contact braider maintenance?

3. How do you confirm wire size?

4. What two things must match?

5. How do you check the ID of hot die?

6. How should the spool be positioned on the shaft?

Page 2

7. Where is the take-up support located?

8. How do you know when the spool is properly installed?

9. How many carriers travel in a clockwise direction and how many travel in a counterclockwise direction?

10. What should you do with the wire before picking up the 2 rollers?

11. What happens when you press the alarm switch?

12. What might happen if the braid crossed over?

13. How many times should the braided material go around the CAPSTAN before you stop the machine?

14. You must recheck to make sure the plastic stock is:

15. How do you splice two ends together?

16. (Hot-Die Operation)
How do you know when the temperature has reached the set point?

17. (All Braider Information)
How can you set the proper speed?

18. What might happen if you lift up on the engagement handle slowly instead of sharply?

19. How do you indicate splicing required? problem area?

20. What does it mean if there is a lump on the braid wire?

Page 3

21. If the wire continues to break, how many things must you check?

22. What does the red light indicate?

23. Should you try to adjust the OD checker yourself?

24. (Detailed Procedure)
When do you terminate lot?

25. How long should you let the machine run?

26. How many inches should you strip back the braided wire? the teflon?

27. How far should you insert the core rod?

28. How long should you heat the core rod and braided wire?

29. What should you do if the wire is not embedded into the core rod?

30. How many different things must you clean at the termination of each lot?

31. Where should you place the new lot?

32. How many times should you turn the crank?

33. What two things must you complete at the end of the process?

(Monday Wednesday Class)

COMPREHENSION ANSWER KEY #4

Process Number: 820026-001

1. wear approved hearing protection and eye wear at all times.
2. if for any reason the hot dies will not hold temperature.
3. by measuring with caliper or micrometer.
4. wire size and color code.
5. with gage pin marking on die.
6. so that the extrusion comes off the bottom of the roll.
7. at the rear of the machine.
8. it is firmly supported onto the shaft with outer teflon locknut not yet tightened.
9. 8 - clockwise, 8 - counterclockwise.
10. Thread it through the eyelet.
11. The alarm light is deactivated.
12. it could dislodge braid pattern from first jacket.
13. 2 revolutions.
14. feeding properly through the tubing guide.
15. peel back braid wire on both material ends and tie together only the wire ends with a square knot.
16. Green light displays.
17. Turn speed control dial counterclockwise until desired speed is reached.
18. damage to gear drive may occur.
19. place red magnet on the control box; tape on braid.

20. a wire has broken

21. 4

22. either oversized or undersized braid.

23. No.

24. when spool of material to be braided runs out.

25. until there is 2" of braided wire only.

26. 3"; 2"

27. Until it reaches the attached area.

28. until core rod is soft enough to embed wire.

29. heat again until there is a good bond between braided wire and core rod.

30. 4

31. on play-out spool

32. 15 turns

33. Braider Log #200 and TCF.

(Monday/Wednesday Class)

VOCABULARY LIST #5

Process Number: 820091-002

1. . . . and is formatted differently . . .
2. . . . may issue labels . . .
3. discrepancy
4. priority
5. to be transferred
6. Additional labels have been generated to compensate for ...
7. indicate
8. verify
9. notify
10. have been reconciled/reconciliation
11. if hub orientation allows you to do so.
12. may encounter problems . . .
13. wrinkle
14. salvage
15. the hub placement will dictate . . .

16. All printed labels must be accounted for.

17. should be centered . . .

18. to ensure

19. enter your assigned used ID name

20. to be obtained, to obtain

21. The next screen to appear will prompt you to enter . . .

22. Deface all test sets . . .

23. Concise rejection written on the traveler . . .

24. The operator will visually scan each label set and watch for such things as misaligned printing . . .

25. view

(Monday/Wednesday Class)

VOCABULARY PRACTICE #5

Process Number: 820091-002

1. How is this class formatted?
2. Who issues stamps for letters?
3. Is there a discrepancy between the amount you earn and the amount you spend each month?
4. What is a priority in your life?
5. Do you sometimes transfer money from one bank account to another?
6. What is generated every spring by trees?
7. What do you do to compensate for working over-time?
8. What do you do to indicate that you need help on the job?
9. Do you encounter problems in stores because English is not your first language?
10. How can you get rid of wrinkles in your clothes?
11. If you saw a TV in someone else's garbage, would you try to salvage it?
12. What is the last thing your process sheet dictates?
13. How are errors on the floor accounted for?
14. What words are centered on the front page of your process sheet?
15. Do you ensure that your door is locked before you leave home?
16. Do you have an assigned parking place?
17. How do you obtain your paycheck?
18. What prompted you to apply for a job at Schneider?
19. If you want to read quickly for specific information, you _____________.
20. What is a good way to view a baseball game if you have seats far from the field?

(Monday/Wednesday Class)

COMPREHENSION ANSWER KEY #5

Process Number: 820091-002

1. No.

2. Only a certified label generator.

3. do not release the labels and contact the supervisor.

4. Production Control will put a star or asterisk next to the one which is NOT a priority.

5. If there are not enough parts to complete a 5-pack after the 1-pack parts have been removed.

6. to compensate for these situations (the quantity transferred is more than the quantity requested.)

7. the proper 820228-xxx tab number.

8. verify that all pages have the same lot number.

9. After QA has inspected the lot.

10. reference 820226-001

11. --the label may be torn when removed from the backing

    --it may tear or wrinkle

    --the label is unacceptable

12. the damaged or unacceptable labels must be salvaged and presented to QA for reconciliation.

13. when the hub placement dictates this.

14. permanent marker

15. must cover the old label completely or so that no color or printing from the original label shows.

16. approximately one inch down from the tip.

17. 2

18. to controlled environment for loading.

(Monday/Wednesday Class)

VOCABULARY LIST #6

(Process Number: 820078-002

1. proper
2. sample
3. prior to
4. reject
5. polish
6. rotate
7. excessive
8. visible
9. insure
10. protective
11. approximately
12. barely
13. contacting
14. slightly
15. vary

(Monday/Wednesday Class)

COMPREHENSION # 5

Process Number: 820091-002

RECONCILE LABELS AND PRODUCT AND LABEL BARRIER BAG

1. Are the carton labels and bag labels the same?
2. Who can issue labels from the secured label generation area?
3. What should you do if the TCF and labels don't match?
4. How do you know which is not a priority between the 1 and 5 pack product?
5. How might the quantity transferred be more than the quantity requested?
6. Why have additional labels been generated?
7. What does the summary page indicate?
8. What is important to do if the TCF has more than one page?

LABEL BARRIER BAG

9. When is the lot ready to be labeled?
10. How can you verify that the description of the catheter matches the product?
11. What are some problems that the operator may encounter while labeling the barrier bag?
12. If you run into these problems, what must be true to be able to use additional labels from the lot?
13. When might you have to place the label off-center?
14. What kind of pen should you use to relabel returned product?
15. What must the new labels do?

LABEL Y-CONNECTOR BARRIER BAG

16. How far from the tip of the chevron seal should the top of the label be centered?
17. How many operators should check the labels?
18. Where should the labeled barrier bags be returned?

(Monday/Wednesdy Class

VOCABULARY PRACTICE #6

(Process Number: 820078-002

A. **Add the words on this list to your dictionary. Be sure to include the definition, part of speech, and a sentence using the word.**

B. **Match the words with their definitions.**

1. _____ proper
2. _____ sample
3, _____ prior to
4. _____ reject
5. _____ polish
6. _____ rotate
7. _____ excessive
8. _____ visible
9. _____ insure
10. _____ protective
11. _____ approximately
12. _____ barely
13. _____ contact
14. _____ slightly
15. _____ vary

a. before
b. turn
c. too much
d. right
e. touch
f. hardly
g. can be seen
h. gives protection
i. make sure
j. about
k. a little
l. refuse to accept
m. change
n. a small part representing the whole
o. make smooth or shiny

(Monday/Wednesday Class)

COMPREHENSION #6

Process Number: 820078-002

GRIND TIP

1. What should you do every day before using the grinder?
2. What should you do before grinding the tip?
3. How can you start the grinder?
4. How much water should come from the mister?
5. How far should the part be rotated into the grinding wheel?
6. How long should you rotate the part?
7. What should you do if the part has too many tip burrs?
8. How often should you check for correct dimensions?
9. What should you do if the wheel becomes loaded up with plastic?

DRESS WHEEL

10. How should the dressing unit be positioned?
11. How far towards the wheel should the dressing unit be moved?
12. Should the diamond touch the wheel?
13. What can you do to make sure the diamond is not in contact with the wheel?
14. Why will cause the wheel dress amount to vary?
15. When the wheel has been dressed sufficiently, what should you do?
16. Should the diamond remain near the wheel?
17. What should you do to keep the dressing unit clean?
18. How can you remove any loose grit and burrs?

(Monday/Wednesday Class)

COMPREHENSION ANSWER KEY #6

Process Number: 820078-002

1. Remove cover from grinder and clean up grinding flash.
2. All grindings, 5 and 6 FF diagnostic molded bodystock and 5 and 6 FR Argon must be placed in dryer at 130 degrees + 10 degrees F. for a minimum of 16 hours.
3. by throwing switch located on the end of motor.
4. so that it covers the entire wheel.
5. until part contacts the end of the fixture.
6. until all plastic is removed and part has a smooth finish.
7. increase air - water flow as required and regrind part.
8. check the first 10 parts and every 50th part after that.
9. blow air on wheel from air hose while grinder and water mist are running.
10. so that infeed micrometer shaft is approximately in the center of the dressing mandrel.
11. until the infeed micrometer shaft contacts the dressing mandrel.
12. No -- it should be approximately .002" away from the wheel.
13. Rotate the wheel using the wheel nut to insure it is not touching.
14. depending on the type of material being ground previous to dressing and the frequency that the wheel is being dressed.
15. turn the coarse infeed adjust handle to move the dressing unit away from the wheel as far as it will move.
16. No, you should pull it back away from the wheel to its original position.
17. Replace the protective cover back on the dressing unit.
18. Use a dressing stick or chalk on the face of the wheel.

Tuesday/Thursday Class

VOCABULARY LIST #2

Process Number: 820090-003

1. appropriate
2. allow
3. maximum
4. verify
5. probe
6. dimensions
7. proper
8. approximately
9. reference
10. unacceptable
11. undergoing/undergo
12. insert
13. tapered
14. minimum
15. flush with

Tuesday/Thursday Class

DEFINITIONS FOR LIST #2

Process Number: 820090-003

1. Suitable, fitting, the right kind or type
2. To make provision for, to provide for.
3. The most which is o.k.
4. Make sure.
5. An object used to investigate/explore.
6. Size, scope.
7. Correct, right.
8. About.
9. Wrong word form -- refer to/look at to check.
10. Not acceptable or o.k.
11. To experience.
12. Put in in/sert de/sert
    go in go away from
13. Gradually narrower at one end.
14. The least which is o.k.
15. So as to be even, in one place, or aligned with a margin.

Tuesday/Thursday Class

VOCABULARY PRACTICE #2

Process Number: 820090-003

A. Add the words from this list to your dictionary. Be sure to include the part of speech and a sentence of your own using the word.

B. Make up a story with your group using each of the following words at least once.

allow
appropriate
proper
minimum
maximum
approximately
unacceptable
dimensions

STORIES BY STUDENTS as Vocabulary Review

The minimum time to dry the material is 2 hours. The maximum time is 12 hours. Before I mold soft tip, I make sure I have proper pins, and also have appropriate molds. I allow the water pump read out approximately 120 degree. I always verify the dimensions of my parts. If I notice they look bad, I measure them with the caliper and I separate unacceptable parts.

Last year in this company there had been some of employees who volunteer layoff. There were approximately 200 employees. The minimum quality employees who found the job right away after layoff. But the maximum are still could find the job yet. Right now in our company are getting busy. Some of department they allow appropriate employees to work couple hours for overtime.

FIRST DAY OF WORK

When I went to my first day of work, my boss told me these rules:

1. I will allow you to use the computer.
2. I expect you to use appropriate manners.
3. Being late is unacceptable.

"What's my salary?" I asked. She said, "Your minimum wage is $7 dollars and your maximum wage is $12 dollars per hour."

I asked her, "What time is break or lunch time?"

"First break is 9:00 o'clock and lunch time is approximately 12:00 o'clock." she said.

I asked her again, "How do I use my computer?"

She said, "I will teach you the proper way later."

Then I asked her, "How big is my office?"

She said, "It's down the hall. It's the room with the biggest dimension."

Last summer weekend my family and I went to fishing in Lake Wisconsin. We stopped by my friend's house and then went together. We used a medium dimension boat. I allowed my kids to go swimming and played ball until noon. It was proper time to go to picnic and fishing. My friends said we should not appropriate any fishes without permission. The maximum of valley is 18 inches long and the minimum of white bass is 12 inches. They caught a different kind except me. Hour later I got one. I was so exciting but my husband told me it was unacceptable. We had a lot of fun and caught maximum fishes were approximately an 8 of them.

After work, I went home. It was very nice out. My son asked permission to allow him to go swimming. First I didn't let hem because he can't go by himself. I told him you have to have an adult or friends to go with you. Finally he said that his friends were waiting for him outside. He promised he would wear appropriate clothes and do proper things. He explained about the pool to me. He said, it is a small pool. i can guess what is the dimensions are. The length is approximately 5 feet, the width is 2 feet minimum and the water is not deep at all. This pool is located in the park close to our house. The kids in this area have more convenience. My son said, "I'll take care of myself, you don't have to worry about me, and I know running on the street is unacceptable. I won't stay there too long. I'll come home at 6 o'clock maximum. After I heard all about that I couldn't say anything except letting him go.

Tuesday/Thursday Class

COMPREHENSION #2

Process Number: 820090-003

Page 1 -- FLARE PROCEDURE

1. What do you check the temperature with?

2. When is the machine ready for operation?

3. What end of the stem should you place onto the hot spike? What will help you to understand this step?

4. What is unacceptable?

   What is another word or phrase which means the same thing as unacceptable.

5. How long should you leave the stem on the cooling block?

Page 2 -- REFLOW PROCEDURE

1. What should you do with the mandrel?

2. Where does the heat shrink go first?

3. Then where does the heat shrink go?

Page 3

4. When the catheter is assembled, where does the heat shrink go?

5. How long should the jaws be closed?

Tuesday/Thursday Class

COMPREHENSION ANSWER KEY #2

Process Number: 820090-003

1. pyrometer
2. After operating temperature has been reached, approximately 3 minutes.
3. profiled end
   Reference Figure 1
4. Rollover of flare
   not acceptable, scrap
5. until cool
6. insert it into tip end of stem.
7. onto tapered end of bodystock.
8. over flare
9. between reflow jaws
10. approximately 30 seconds
11. a minimum of 3 minutes
12. cut off heat shrink with cutter. Place mandrel block up aginst stem and pull it out.
13. wire does not pass through reflow area -- contact group leader or supervisor.
14. until teflon is flush with the end of the stem.
15. at least 1.0"
16. complete TCF.
17. if an acceptable start-up is not achieved after 3 attempts.
18. appropriate dimensions
19. 2 inch lengths

20. 2 start-up catheters for wires and pits
    start-up catheters
    teflon

21. if reflow area is unacceptable

22.
    1. if any combination of reflow wires, pits, or unacceptable ID of reflow are found.
    2. if unidentified defects are found.

23.
    a. reflow start-up sheet
    b. temperature
    c. The 2 acceptable start-up catheters on the reflow start-up sheet.
    d. 8 more start-up catheters
    e. reflowed catheters
    f. O.D. of the 8 start-up catheters for wire and pits.
    g. 8 start-up catheters through the reflow area.
    h. teflon

24. Rework bodystock must be done on one side of cell and JIT lot must be done on the other side.

25. 1/2 hour.

26. removes moisture

27. after bodystock has been reworked and reflowed.

Tuesday/Thursday Class

VOCABULARY LIST #3

Process Number: 560220-xxx

1. saturated
2. ventilated
3. automatic
4. syringe
5. located on
6. overtighten
7. damaged
8. puncture
9. to flush through
10. dispose of
11. appropriately
12. blockage
13. at a constant, slow pace
14. shake

Tuesday/Thursday Class

VOCABULARY PRACTICE #3

Process Number: 560220-xxx

A. Add the words on this list to your dictionary. Remember to include the definition, part of speech, and your own sentence using the word.

B. Choose the correct words to complete the following sentences.

1. If you __________________ the luer, it may become ____________________________.

2. Press the ______________________ to cause 2 ml of coating solution to _________________________________ the inner lumen of the catheter.

3. If you do this operation in an area which is not ________________________________, you may become sick.

4. The coating solution should be ___________________________ in flammable waste container and labeled ___________________________.

5. The clock is ___________________________ the wall.

6. Does your car have an ________________________ or standard transmission?

7. To prevent ___________________________ due to the coating solution, allow air to blow through the coated inner lumen for 30 seconds minimum.

8. A turtle walks _________________________.

Tuesday/Thursday Class

COMPREHENSION #3

Process Number: 560220-xxx

XLP Balloon Catheter Coating

Page 1

1. What three things are important to remember?

   (a)

   (b)

   (c)

2. Where can you find the male luer?

3. How might the luer become damaged?

4. How could the balloon or bodystock of the catheter become scratched? What else might happen to it?

5. Why should you press the syringe?

6. Should you use the coating solution more than once?

Page 2

7. When you unscrew the catheter from the luer lock, where does the balloon go?

8. How long should the air blow through the coated inner lumen?

9. Why should you wipe the manifold body and balloon of each assembly?

10. What should you do before coating?

11. In Step 11, where does the bodystock go? What can you look at to help you?

12. How fast should you dip the bodystock into the coating solution?

13. What should you NOT do?

14. What should you do with foam holder if it becomes saturated with the solution?

15. Why should the bodystock come out slowly from the solution?

16. Should the catheters touch each other?

Tuesday/Thursday Class

COMPREHENSION ANSWER KEY # 3

Process Number: 560220-xxx

1. a. safety glass and clean non-latex gloves must be worn during this process.
   b. must be performed in a ventilated area.
   c. use automatic coating dispenser.
2. located on dispenser outlet tube.
3. if you overtighten the luer.
4. sharp edges on the rim; it could be punctured.
5. to cause 2 ml (2 cc) of coating solution to flush through the inner lumen of the catheter.
6. No.
7. in the large beaker
8. for 30 seconds minimum
9. to remove any lint and/or contamination.
10. Allow freon TP-35 to evaporate from bodystock.
11. into foam holder slits. Reference Figure 1.
12. at a constant slow pace.
13. DO NOT coat balloon or heat shrink.
14. replace with a dry foam holder.
15. so that you can pull the last drop of solution off the bodystock.
16. No.

Tuesday/Thursday Class

VOCABULARY LIST #4

Process Number: 820016-002

1. to dispense
2. notify
3. adhesive
4. prior to dispensing
5. inspect 100%
6. flaws
7. shelf life
8. inspect
9. clogged
10. flammable waste
11. obtain
12. pedal must remain depressed . . .
13. suitable surfaces
14. verify part numbers
15. align wings of hub . . .

16. recheck hub wing to stem configuration alignment . . .
   (a) configuration
   (b) alignment

17. disregard this step . . .

18. to provide a visible filler . . .

19. fail/failure

20. for the remainder of test units . . .

21. obstruction or undersize ID . . .
   (a) obstruction
   (b) undersized

22. disposition -- wrong; used in place of position

23. intersection

Tuesday/Thursday Class

VOCABULARY PRACTICE AND COMPREHENSION #4

Process Number: 820016-002

A. Add the words on this list to your dictionary. Include part of speech, definition, and a sentence using the word.

B. PRACTICE/COMPREHENSION
Discuss the answers to these questions in pairs.

1. What do you dispense?

2. Who do you notify when there is a problem?

3. What do you use the adhesive for in this process?

4. What should you always do prior to dispensing the adhesive?

5. Write "Inspect 100%" in your own words.

6. If the hub has a printing flaw, is this good or bad?

7. How long is the adhesive's shelf life?

8. Why should you replace tips when they become clogged?

9. Give an example of flammable waste.

10. When the old barrel has been thrown away, what do you need to do?

Page 6

11. Why must the pedal remain depressed?

12. What are some examples of a suitable surface?

13. What is suitable dress for your job?

14. What things must match the TCF?

15. Align this paper next to your neighbor's paper.

16. What should you re-check and adjust if necessary?

17. What should you do if the parts are non-formed?

18. How can you make the filler visible?

19. What is the final step of this operation?

20. (Page 8) How long should the parts have dried?

21. Why should you blow out the catheters?

22. How long is the: Settle Time ____________?

Test Time ______________?

23. If the catheters fail a test, what should you do?

24. How many questions are there in the remainder of this worksheet?

25. Is it okay for a catheter to have an obstruction? (Page 12)

26. How do you turn on the leak tester? (Page 12)

27. When you plug the tip of the catheter with your finger, what should you be careful of? (Page 14)

28. What does it mean if the alarm sounds once? twice?

29. Who cannot perform leak test on their own product? (Page 15)

30. How do you remove hub/strain relief? (Page 17)

(Tuesday/Thursday Class)

COMPREHENSION ANSWER KEY #4

Process Number: 820016-002

1. adhesive
2. supervisor
3. to glue Bond Hub to Bodystock
4. shake bottle of adhesive.
5. check completely, etc.
6. Bad
7. 24 hours
8. because nothing can go through them.
9. gas, oil, etc.
10. obtain a new barrel and tip filling with fresh adhesive.
11. early release will interrupt the cycle.
12. piece of scrap bodystock or a piece of paper.
13. ---------
14. part numbers of strain relief and hub.
15. ---------
16. hub wing.
17. disregard this step
18. ensure that enough adhesive is applied.
19. keep work area clean
20. 2 minutes
21. to ensure no water is left from forming.
22. 01 seconds

    05 seconds

23. stop cycle

24. 6

25. No.

26. ---------

27. Do not damage tip or body with fingernail by pinching or crimping.

28. If there is a leak in the catheter (1 time)
catheter fails test (2x)

29. hub bonder

30. by cutting it from body stock as close as possible to the body stock/strain relief intersection.

(Tuesday/Thursday Class)

VOCABULARY LIST #5

1. in contact with

2. flush with water

3. gently work loose . . .

4. dispensed into a sealed syringe

5. when the adhesive in the syringe is used up . . .

6. until all adhesive is expended. . .

7. if a 24-hour period has elapsed . . .

8. . . . allow adhesive to cure . . .

9. replace with new syringe and adhesive

10. coupling automatically locks into place

11. push in and twist

12. attach the syringe to a corresponding adapter head . . .

(Tuesday/Thursday Class)

VOCABULARY PRACTICE #5

A. Find each of the words and phrases on the process sheet and underline it. Then guess the meaning from the context and write it down here. When you are finished, share your guesses with your partner and discuss any differences

1. 7.

2. 8.

3. 9.

4. 10.

5. 11.

6. 12.

B. Look up each word in your dictionary and compare it with what you guessed. Enter the correct definition, part of speech, and your own sentence using the words on the vocabulary list and in your dictionary.

(Tuesday/Thursday Class

COMPREHENSION #5

1. If the adhesive touches your skin, what should you do?

2. If the adhesive touches your skin, what shouldn't you do?

3. What should you do if you get some in your eye?

4. How can you make sure that the adhesive has not expired?

5. How long can adhesive remain in a sealed syringe?

6. Can you put new adhesive in a used syringe?

7. When do you need to replace dispensing needles?
   Why?

8. What should not go into the air hose?

9. What needs to be changed if the new needle does not dispense Sicomet easily?

10. When setting it up, what should you do if the 24-hour pot life has been exceeded?

11. How do you attach the input air hose coupling to the dispenser?

12. What two things do you do to the black male quick-connect?

13. What is the second thing you should connect the detachable power cord to?

14. Where should you place the syringe?

15. How far should you put the mouth of the Sicomet bottle into the syringe?

16. How full should the syringe be?

17. What four things should you put on the syringe label?

18. What should you attach the syringe to?

19. When should you notify your supervisor?

20. What can you look at to help you with Steps 10 through 14?

21. What will happen while the foot pedal is depressed?

22. How can you reduce the pressure (two steps)?

Tuesday/Thursday Class

VOCABULARY LIST #6

Process Number: 820293-001

1. stick
2. under no circumstances
3. obtain
4. assume
5. position
6. facing up, facing down
7. retracts
8. examine
9. transparent
10. uniform in color
11. phenomenon
12. distinct
13. compromise
14. questionable
15. deemed acceptable
16. stack (verb)
17. build up

Tuesday/Thursday Class

VOCABULARY PRACTICE #6

Process Number: 820293-001

A. Add the words on List #6 to your dictionary. Remember to include the part of speech, definition, and a sentence using the word.

B. Fill in the sentences with the following vocabulary words.

stick
under no circumstances
obtain
uniform
facing down

retract
examine
transparent
positions
distinct

compromise
questionable
assured
phenomenon

1. In order to ______________________ a new driver's license, you have to go to the county courthouse.

2. A window is _______________ so that you can see through it.

3. ____ should small children go into the street alone.

4. A peanut butter sandwich will _________________________ to the top of your mouth.

5. All the balloon catheters are __________________ in shape.

6. You should go to a dentist every six months so that he or she can ________________________ your teeth.

7. A cat can _________________________ its claws, but a dog can't.

8. Minnesota is known for very ______________________ changes in weather.

9. He always __________________________ his chair so that it is right in front of the TV.

10. Before going to bed, he ___________________ himself that the door was locked.

11. Make sure that the red side is ___________________ and the white side is facing up.

12. Snow in Thailand is an almost unknown _____________________.

13. If you leave the door open, you could _______________________ the child's safety.

14. Her study habits are ______________________.

Tuesday/Thursday Class

COMPREHENSION #6

Process Number: 820293-001

1. What must operators wear during this process?

2. Can the trays sometimes stick to the heater plate?

3. When should operator place his hands inside guarded mechanisms?

4. Where should operator place the trays?

5. How should the Tyvek lids be positioned?

6. What is the opposite of "shiny-smooth" according to this process sheet?

7. At what point can you pull out the tray nest?

8. What must you do immediately after the tray has been sealed?

9. Is it okay if the seal is different colors?

10. What might happen if the seal becomes too hot?

11. When should you measure the seal width?

12. When should you stack the seals next to the Sentinel sealer?

13. What should you inspect the heater plate and sealing fixture nests for?

Tuesday/Thursday Class

COMPREHENSION ANSWER KEY #6

Process Number: 820293-001

1. clean latex gloves
2. yes
3. Never, under no circumstances.
4. into nests of sealing fixture.
5. squarely over trays.
6. rougher -- duller
7. when valve releases and the heater plate retracts.
8. examine it.
9. No. Should be uniform in color.

10 "transparentizing"

11. if it is questionable.
12. after trays have been examined and deemed acceptable.
13. build up of contamination.

Tuesday/Thursday Class

VOCABULARY LIST #7

Process Number: 820057-001

1. proper
2. to ensure
3. prior to
4. sparingly
5. scratches
6. randomly
7. rotate
8. distort
9. notify
10. nick
11. height
12. specification
13. replace
14. due to
15. purge

(Tuesday/Thursday Class)

VOCABULARY PRACTICE #7

Process Number: 820057-001

A. Add all the words on this list to your dictionary. Be sure to include the part of speech, definition, and a sentence using the word.

B. Find each word in the process sheet. See what part of speech it is in the context. Then add the word to the proper category on this sheet.

	VERB	ADJECTIVE	ADVERB	PREP.

C. **Write a story using the following words:**

proper
distort
height
randomly
sparingly
specification

rotate nick scratches

(Tuesday/Thursday Class)

COMPREHENSION #7

Process Number: 820057-001

1. What should you check for prior to beginning this procedure?
2. What might cause the parts to stick?
3. If parts stick, how much MS-IZZ mold release should you use?
4. What pins might need to be replaced?
5. How should you check that the parts have been correctly placed on the pins?
6. How many instruction words are in Step #5 of MOLD TIP operation?
7. In Step #6, what is very important to remember?
8. What can you refer to for the ground tip length?
9. How many times should you take pulls and when should you take them?
10. When do you need to purge press?
11. What should you do if you notice defects? (NOTE)
12. When do you need to notify a group leader while inspecting the inside of parts for flash as they are removed from the mold?
13. How long should the catheters be placed in the dryer?
14. Put the following steps in order according to Step #13:

    catheters in dryer

    tip grinding

    molding tips

15. Write down all the instruction words on Page 12 of 12 here and then rewrite them in alphabetical order.

(Tuesday/Thursday Class)

COMPREHENSION ANSWER KEY #7

Process Number: 820057-001

1. ensure parts are tapered correctly.
2. alcohol cleaning
3. a little bit (use it sparingly).
4. pins with scratches, bent shapes, or broken ends.
5. randomly
6. 7
7. Use care not to distort tips.
8. tab chart on summary page
9. 3 times -- at the beginning, middle, and end of the lot.
10. as necessary if material is running or if gas bubbles are present.
11. trim tip off with cutter.
12. if flash continues
13. a minimum of 16 hours.
14. a. molding tips
    b. catheters in dryer
    c. tip grinding
15. 11

(Tuesday/Thursday Class)

VOCABULARY LIST #8

Process Number: 360469-xxx

1. dimensions
2. delicate
3. damage
4. sharp
5. dimensionally
6. slightly
7. purge
8. residue
9. deposit
10. to wick
11. excess
12. discard
13. reposition
14. scrape
15. fleck

(Tuesday/Thursday Class)

VOCABULARY PRACTICE #8

Process Number: 360469-xxx

A. Add the words on this list to your dictionary. Remember to include the definition, part of speech, and a sentence using the word.

B. Use the words on the list to complete the following sentences.

1. What are the ________________ of your living room?
2. The _____________________ from the burning logs in my fireplace is black and dirty.
3. Most people ___________________ their junk mail before even reading it.
4. In order to get all the cake batter into the pan, you have to _______________ the sides of the bowl.
5. The high winds from the storm ____________________ many trees.
6. There is an _____________ of noise in their backyard because they live too close to the freeway.
7. The people wished to _____________ their sins by praying.
8. This cloth is still ________________ damp from being out in the rain.
9. Be careful. That knife is __________________.
10. He often sees ________________ of dust in the stream of sunlight.

C. Write a story using each of the following words at least once. The story can be work-related or non-work-related.

delicate
damage
slightly

discard
excess
scrape

fleck
sharp
deposit

(Tuesday/Thursday Class)

COMPREHENSION #8

Process Number: 360469-xxx

1. When do you check the dimensions of the 10 marker bands?

2. How should you pick up a marker band? Why?

3. What is important to check for on the marker bands?

4. If you are not sure if the edges are sharp, what could you use to help you?

5. Where should the marker bands be placed?

6. How do you get them to stick?

7. What can you look at to help you?

8. Why would you switch the orange button to the continuous mode?

9. When would you need to change the needle?

10. What should you do before bonding any marker band?

11. What are four problems which might occur and what are the solutions for each one?

12. When is wicking necessary and what should you do about it?

13. How long does it take the adhesive to dry?

14. Where should you put the catheter to allow it to cure?

15. How thoroughly should you inspect each marker band?

16. What marker bands should be set aside?

17. Is it possible to correct any problems on the marker bands?

18. How can they be scraped?

19. What should you make sure has not happened?

20. Why should you wipe all reworked parts with a disposable wipe?

21. What kind of adhesive is unacceptable and what kind is acceptable?

22. What does "out of specification" mean?
What is the phrase which means the opposite of "out of specification"?

(Tuesday/Thursday Class)

COMPREHENSION ANSWER KEY #8

Process Number: 360469-xxx

1. before bonding marker bands.
2. carefully with mandrel, because they are delicate and damage easily.
3. that they are undamaged and contain no sharp edges.
4. microscope
5. on the bodystock
6. use marker bank bonding fixture.
7. Reference Figure 4
8. if needle becomes slightly or completely clogged.
9. if the needle was unused for an hour or more.
10. switch the orange button back to Timer mode
11. marker band is tight -- notify supervisor

    excess glue -- use disposable wipes as needed

    marker bands are covered with glue -- adjust the air pressure down slightly.

    glue sets up before you get marker band in place -- discard glue and get new barrel of adhesive.
12. Check the dispenser settings and adjust the air pressure down slightly.
13. 1 - 5 seconds
14. aside
15. 100%
16. any units with marker band protrusion above the normal marker band profile.

17. yes

18. away from marker band

19. inner member is not damaged

29. unacceptable: balls, sharp points, areas higher than marker band.

    acceptable: all extra adhesive is smooth and even with height of marker band.

22. not done according to the rules

    meets specification

FINAL VOCABULARY USED IN TESTING
Reading Process Sheet Module
March 16, 1992 - May 21, 1992

activate
adhesive
align
appropriately
approximately
blockage
damaged
deactivate
deface
defective
dimensions
discard
discrepancy
dispense
disposable
dispose of
due to

duration
examine
excess
excessive

fleck
indicate
insert
insure
legible
located on
match
maximum
minimum
notify
obtain
overtighten
position
prior to
priority
proper
purge

questionable
randomly
reject
remainder

remove
revolution
rotate
salvage
sample
saturated
scrape
select
sharp
slightly
sparingly
splice
stack
strip
thread
transparent
under no circumstances
unacceptable
uniform
vary
ventilated

NAME ______________________________ DATE____________

VOCABULARY LIST # 2

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. duration

2. activate

3. verify

4. legible

5. disposable

6. excess

M/W

FINAL TESTS

NAME ______________________________________ DATE ______________

COMPREHENSION QUESTIONS # 2

DIRECTIONS: Write the answers to the following questions.

1. When should you wear gloves?

2. What do you do to start dispense cycle?

3. How do you blow the antistatic air through the manifold?

4. Why do you do this?

5. In Step 5, what does "both parts" refer to?

NAME ______________________________ DATE ______________

VOCABULARY LIST # 3

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. allow

2. maximum

3. verify

4. dimensions

5. approximately

6. insert

NAME ______________________________________ DATE ________________

COMPREHENSION QUESTIONS #3

DIRECTIONS: Write the answers to the following questions.

1. What do you check the temperature with?

2. When is the machine ready for operation?

3. What end of the stem should you place onto the hot spike? What will help you to understand this step?

4. How long should you leave the stem on the cooling block?

5. Where does the heat shrink go first?

NAME ______________________________ DATE ____________

VOCABULARY LIST #4

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. select

2. deactivate

3. revolution

4. splice

5. indicate

6. defective

NAME ______________________________ DATE _____________

COMPREHENSION QUESTIONS #4

DIRECTIONS: Write the answers to the following questions.

1. What is very important to remember for your safety?

2. When should you contact braider maintenance?

3. How do you confirm wire size?

4. Where is the take-up support located?

5. How many carriers travel in a clockwise direction and how many travel in a counter-clockwise direction?

NAME ______________________________ DATE ______________

VOCABULARY LIST #5

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. discrepancy

2. priority

3. indicate

4. verify

5. notify

6. salvage

NAME ______________________________________ DATE __________

COMPREHENSION QUESTIONS #5

DIRECTIONS: Write the answers to the following questions.

1. Are the carton labels and bag labels the same?

2. Who can issue labels from the secured label generation area?

3. How might the quantity transferred be more than the quantity requested?

4. Why have additional labels been generated?

5. What does the summary page indicate?

NAME ______________________________ DATE ____________

VOCABULARY LIST #6

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. prior to

2. reject

3. excessive

4. visible

5. insure

6. vary

NAME ______________________________ DATE ________________

COMPREHENSION QUESTIONS #6

DIRECTIONS: Write the answers to the following questions.

1. What should you do every day before using the grinder?

2. How can you start the grinder?

3. How far should the part be rotated into the grinding wheel?

4. How long should you rotate the part?

5. How often should you check for correct dimensions?

NAME ____ DATE _________________

VOCABULARY LIST # 1 (Monday/Wednesday and Tuesday/Thursday)

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. randomly

2. immerse

3. entire

4. agitate

5. sway

6. excess

NAME ______________________________ DATE ____________

COMPREHENSION QUESTIONS #1 (Monday/Wednesday and Tuesday/Thursday)

DIRECTIONS: Write the answers to the following questions.

1. Which end of the guiding catheter should be cleaned?

2. How should the parts be placed in the cleaning basket?

3. Can all types of bodystock be placed in the cleaning basket?

4. How long should the basket or bodystock be placed in the freon TE vapor zone?

5. Where is the GraLab timer located?

NAME ____ DATE ________________

VOCABULARY LIST #2 (Tuesday/Thursday)

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. allow

2. maximum

3. verify

4. dimensions

5. approximately

6. insert

NAME _______________ ____ DATE ________________

COMPREHENSION QUESTIONS #2 (Tuesday/Thursday)

DIRECTIONS: Write the answers to the following questions.

1. What do you check the temperature with?

2. When is the machine ready for operation?

3. What end of the stem should you place onto the hot spike? What will help you to understand this step?

4. How long should you leave the stem on the cooling block?

5. Where does the heat shrink go first?

NAME ______________________________ DATE ______________

VOCABULARY LIST #3 (Tuesday/Thursday)

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. saturated

2. ventilated

3. overtighten

4. dispose of

5. appropriately

6. blockage

NAME ______________________________ DATE ________________

COMPREHENSION QUESTIONS #3 (Tuesday/Thursday)

DIRECTIONS: Write the answers to the following questions.

1. What three things are important to remember?

   (a)

   (b)

   (c)

2. Where can you find the male luer?

3. How might the luer become damaged?

4. Why should you press the syringe?

5. Should you use the coating solution more than once?

NAME ______________________________ DATE ______________

VOCABULARY LIST #6 (Tuesday/Thursday)

DIRECTIONS; Write the definition of each of the following words or use each word in a sentence.

1. stick

2. under no circumstances

3. position

4. examine

5. transparent

6. uniform in color

NAME ______________________________ DATE ______________

COMPREHENSION QUESTIONS #6 (Tuesday/Thursday)

DIRECTIONS: Write the answers to the following questions.

1. What must operators wear during this process?

2. Can the trays sometimes stick to the heater plate?

3. When should operator place his hands inside guarded mechanisms?

4. Where should operator place the trays?

5. How should the Tyvek lids be positioned?

NAME ______________________________ DATE ____________

VOCABULARY LIST #7 (Tuesday/Thursday)

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. proper

2. to ensure

3. prior to

4. sparingly

5. randomly

6. rotate

NAME ______________________________ DATE ______________

COMPREHENSION QUESTIONS #7 (Tuesday/Thursday)

DIRECTIONS: Write the answers to the following questions.

1. What might cause the parts to stick?

2. If parts stick, how much MS-IZZ mold release should you use?

3. What can you refer to for the ground tip length?

4. When do you need to purge press?

5. How long should the catheters be placed in the dryer?

NAME ______________________________ DATE ________________

VOCABULARY LIST #8 (Tuesday/Thursday)

DIRECTIONS: Write the definition of each of the following words or use each word in a sentence.

1. dimensions

2. slightly

3. excess

4. discard

5. scrape

6. fleck

NAME ________________________________ DATE _______________

COMPREHENSION QUESTIONS #8

DIRECTIONS: Write the answers to the following questions.

1. When do you check the dimensions of the 10 marker bands?

2. How should you pick up a marker band? Why?

3. If you are not sure if the edges are sharp, what could you use to help you?

4. Where should the marker bands be placed?

5. Why would you switch the orange button to the continuous mode?

UNDERSTANDING DIVERSITY II: AWARENESS TO APPLICATION
FACILITATORS' GUIDE
TIME FRAME: 8:00 AM - 12:30 PM

I. DIVERSITY AWARENESS

Susan 8:00 A. **WELCOME/THANKS** for coming to 2nd half of the two-part Diversity Training - 2nd Schneider/AMS Co-training

Lucinda 8:02 B. **WARM-UP Facilitator and Participant Introduction Activity**

Instruct group: We would like to help you get to know each other again since it has been a while since the first part of our training. For today's workshop, we also want to address immediately our similarities and differences as individuals in a group.

For this activity, we would like you, one at a time, to say your name, department, company, and something about yourself. If you are the first person, this is all you have to do. However, if you follow someone, you will have to listen carefully! You should also say your name, department, and company. Then respond to the person before you by saying whether his or her personal information is true for you or not. If not, then you will explain how you are different. Then go on to give some new information about yourself. The person who follows the second person will again say his or her name, department, company, respond to the last piece of personal information he or she heard and add new information as well. This will continue until we have heard from everyone.

The facilitators will begin this process to show you just how it works.

Introduce yourselves to the group: Facilitator #1: Hi, my name is Lucinda McCormack, and I work in Skills Enhancement for Schneider. I just had my third son.

Facilitator #2: Hi, my name is Darlene Roy-Johnson, and I work in Human Resources for AMS. I don't have any sons, but I have two daughters. I live in Apple Valley.

Facilitator #3: Hi, my name is Connie Berg, and I work in Materials for Schneider. I don't live in Apple Valley; I live in St. Paul. I . . .

ETC.

Darlene
8:20

C. SHARE workshop goals/objectives

Make transition: In the workshop today, we have several objectives which we will attempt to fulfill. After completing this workshop, participants will be better able to: (HANDOUT p. 1)

Darlene
8:22

D. OVERVIEW agenda

Refer to flipchart/handout: Now we would like to show you our schedule for today. (HANDOUT p. 2)

Connie
8:25

E. RELATE the introduction exercise to Diversity:
LOOK AT DEMOGRAPHICS

Introduce workshop and next topic: Today's workshop is Part II of our series in Diversity. Obviously we have many differences and similarities between all of us in this room. Why is this important to realize and how can we work together to enhance our workplaces?

During the first workshop we focused on awareness of diversity. Today we hope to review what we learned last time and then to learn and practice skills which will help us to use diversity to our advantage.

Facilitate group ideas and present information: We can begin by looking at the demographics of the U.S. as they stand today, and then look at how they are projected to change. (HANDOUTS pp. 3-4)

F. OVERVIEW Diversity in the Workplace

Pam
8:35

1. REVIEW definition

Make transition; show flipchart/handout: Now that we've looked at the changing make-up of our workplaces, let's review the definition of diversity that we used during the first workshop. (HANDOUT p. 5)

Pam
8:37

2. SHOW video "Valuing Differences"

Introduce/show video: In order to focus on the positive influence of diversity and to think about how our own work relationships are affected, let's look at the video called "Valuing Differences".

Pam
8:52

3. BRAINSTORM other areas of diversity for our definition

Facilitate group ideas: After looking at our first definition of diversity and viewing the video, are there any other aspects of diversity what we should add to our working definition? Please feel free to take notes on your handouts (HANDOUT p. 5).

(Connie *write ideas on the flipchart)*

Pam
8:57

4. DIRECT attention from Awareness to Application

Make transition: Our goal is to learn to value diversity in our lives and in our workplaces. In order truly to value diversity, it is necessary to understand and accept it. Even more important is for us to feel that we have the skills necessary to communicate across differences and therefore to feel comfortable working with diversity. The next portion of our workshop today will focus on some of the necessary skills for good communication.

II. SKILLS FOR EFFECTIVELY ADDRESSING DIVERSITY

A. DIE MODEL

Connie
9:00

1. INTRODUCE the role play as introduction to DIE Model

Explain the role play and what to look for: We are now going to set up a role play using a small group of participants and a couple facilitators. This role play will be based on a town meeting about a proposed federal prison in the town of River City.

The participants and facilitators will receive cards with directions about their roles during the meeting and the style of communication their character typically uses.

As you watch our "actors" during the role play, please pay careful attention to how each "townsperson" communicates his or her ideas to the rest of the group.

Connie **2. ANNOUNCE chosen participants; SET UP role play**

Facilitate set up of role play:

You may be wondering which of you is going to be able to participate in this role play. Actually, you have already been chosen! Look at the back of your packet of handouts. If you see one of the following symbols - a star, a circle, a square, a triangle, or a diamond - you get to be one of our actors for the day!

(ALL *assign roles, arrange chairs, organize room for role play.)*

Darlene **3. BEGIN Town Meeting role play**
9:05

As "mayor", read your introduction to townspeople to direct focus.

"We are here tonight to discuss the opportunity for River City. The Federal Government has selected our city as one of two potential sites for a new federal corrections institution."

****

ROLE PLAY CONTINUES:

At this point, a "city councilperson" (facilitator: Pam) will give a brief presentation to the townspeople about the potential financial benefits to the city if River City is chosen.

The meeting then opens for discussion with the participants who are given the following roles as townspeople:

1. Sales representative for a food supplier
   - For the prison
   - Thoughtful, waits more than 3 seconds to respond to questions or comments

2. Day care provider for the past ten years
   - Against the prison
   - Shows strong emotion

3. Homeowner
   - Against the prison

- Uses lots of wild hand gestures

4. Unemployed resident
    - For the prison
    - Talks with face very close to others

5. Dentist
    - Doesn't care; attending for the social event
    - Listens by leaning forward in chair, head in hands

ALL facilitators direct the flow of the meeting so that maximum involvement of each townperson is reached.

****

Lucinda/ ALL 9:15

4. DEBRIEF role play

Debrief the role play in DIE Model terms; ask questions from Description to Evaluation:

As you were observing people's behavior during this role play, what did you see? Let's discuss each townsperson's behavior one at a time.

(For each townsperson, go through the following questions:

1. *What did townsperson (#1) do?*
2. *Why did townsperson (#1) act this way?*
3. *How did you feel about townsperson (#1)'s behavior?*

Lucinda 9:22

5. INTRODUCE DIE model

Present information; refer to flipchart:

When you gave answers about what each person was doing, this should have been simply your description. It should not include why you think this behavior is going on or how you feel about it.

Let's look at the DIE Model carefully to see what I am referring to (HANDOUT p. 6)

D: Describing behavior means to talk about it attributing meaning. This includes counting, listing, naming, defining, recording. In simply describing, you should not supply the "whys" for any situation or make comments.

The next question we asked - why do you think this townsperson was acting this way - gets to your interpretation of a person's behavior.

I: Interpreting behavior means to make inferences, attribute meaning, explain, relate, summarize, combine, or generalize. What do you think or believe about what you see and hear?

Finally, the question which asked for your opinion as to the appropriateness of a given behavior asks you to go to the evaluation stage.

E: Evaluating behavior means to pass judgement, make comparisons, accept or reject. It involves what should or should not happen.

Pam	**6. CATEGORIZE participants' responses according to the DIE Model**	
9:25	*Facilitate group ideas:*	Let's look at the answers you gave to each of the debriefing questions. Which answers are really just descriptive, which answers are interpretive, and which answers evaluate the behavior? We can categorize them on this flipchart and you may want to take notes on your handout. (HANDOUT p. 7) Describe Interpret Evaluate
(Lucinda	*write ideas on flipchart)*	
Pam	**7. LEAD discussion on prejudice - obvious and covert**	
9:30 each	*Lead discussion; provide summary:*	How much would you say that you knew about of the characters in this role play? How does this lack of knowledge affect your judgment? If you do not know very much about a person, which level do you think would give you the most accurate picture of his or her behavior? *(Elicit Description)*

How do you think our judgment changes when we interpret or evaluate behavior? If we automatically evaluate another person's words or actions, we are only looking through our own perspectives of what is normal or acceptable.

It is this kind of reaction that can lead to prejudiced thinking. What are some examples of obvious prejudice that we see, either in the real world or on t.v.? Consider Archie Bunker. Can you think of any comments this overtly prejudiced character would say?

Although this kind of prejudice is easy to detect, we must realize that prejudice happens to all of us when we interpret and evaluate without having all the facts. We all have diverse frames of reference from which wrong interpretations and negative evaluations come easily. This lack of understanding and accepting can not lead to the necessary step of valuing diversity in order to foster productive workplaces.

Therefore, when dealing with others in the workplace or with unknown situation, it is wise to remember this DIE model and to begin at the level of description until you learn more about the person or the situation at hand.

B. COMMUNICATION SKILLS

Darlene 9:40

1. COMMUNICATION ACTIVITY USING BLOCKS

a. PROVIDE transition from DIE Model to Communication Skills

Make transition from DIE model to communication skills: Now that you have had a chance to discuss the as a means of bridging the diversity gap, we would like to give you the opportunity to learn and practice communication skills. These will be helpful in finding out the additional information you need in order to judge a situation accurately and to communicate effectively.

b. INSTRUCT group in Part One of Blocks Activity

ALL

Assist group formation: In order to begin our next activity, we would like you all to form 4 groups.

Escort members out of the room: Now that you are in your groups, you need to ask one member of your group to leave the room.

Darlene	*Provide instruction to remaining members:*	Before your group member returns, your group is to build a structure using all of the blocks the facilitator gives you. You will then need to place the box over your structure so that you can still see the structure, but your group member can not.
(ALL	*escort members back to their groups)*	
Darlene	*Provide instruction to everyone:*	Your returning team member has a set of blocks identical to the set you used to build your structures. At this point we would like two groups to tell their returning team members how to build an identical structure while the other two groups observe.
	To the first two groups:	You are going to explain to your members how to build your structure using one-way communication. This means that your team member may not ask any questions and that you may not give any feedback about how he or she is progressing. Everyone should watch carefully to see if this is successful.

c. DEBRIEF Part One of the Blocks Activity

their	*Facilitate group ideas:*	How well did the returning members duplicate teams' structures? How long did it take? As the two who were trying to follow directions, how did you feel? Was this an effective means of communicating? What would make it better? *(Elicit such answers as giving feedback, asking questions, etc.)*
(Susan	*write ideas on the flipchart)*	

Darlene d. **PROVIDE INSTRUCTION for Part Two of the activity**

To the second two groups: Now you are going to explain how to build your structures to your team member, but this time you can use all the suggestions we all came up with for making the communication more effective. This will be an example of two-way communication where both parties are responsible for the results.

c. **DEBRIEF Part Two of the Blocks Activity**

Facilitate group ideas: How did this kind of two-way communication affect the end-result, i.e. the structure? How long did it take to build them this time? How did the two of you who were following the directions feel? Try to summarize the main differences between one-way and two-way communication. *(Elicit such answers as more unified group, more fun, less anxiety, more accurate, etc.)*

(Susan *write ideas on the flipchart)*

Darlene
10:10 2. **HANDOUTS OF COMMUNICATION SKILLS**

Review skills used in the blocks activity; overview additional communication skills: (HANDOUTS pp. 8 & 9)

10:15 III. **BREAK** (15 minutes)

IV. **APPLICATION OF SKILLS FOR EFFECTIVELY ADDRESSING DIVERSITY IN THE WORKPLACE: CASE STUDIES**

Connie
10:30 A. **INTRODUCE Case Studies in large group**

Make transition from skills to case studies: So far during this workshop you have discussed the need for awareness of diversity and have had a chance to learn about and practice skills which will help you apply this awareness in your communication with others in your workplaces. Now we are going to give you the opportunity to practice further these skills through the discussion of actual/possible case studies.

Connie **1. INTRODUCE role play of Case Study #1**

Provide instruction: In order to begin the case studies, two facilitators are going to act out a role play of Case Study #1 (HANDOUT p. 10). Both of the women in this role play are Asian; look carefully at what they are doing.
(Facilitators act out Case Study #1 in which an Asian woman is scraping sick Asian woman's back with a coin.)

Connie **2. DEBRIEF role play with the DIE Model**

Facilitate group ideas: Let's talk about how we can discuss this case study in terms of the DIE model. In order to describe what happened, what kind of question could you ask?
(Elicit the question: What exactly did you see?)

In order to interpret what happened, what kind of question need to be answered?
(Elicit the question: Why do you think this is happening?)

In order to evaluate what happened, what kind of question needs to be answered?
(Elicit the questions: How do you feel about this? OR What is your reaction?)

(Pam *write ideas on the flipchart)*

Connie **3. DEBRIEF role play by looking at appropriate communication skills**

Facilitate group ideas: After you read additional case studies in your small groups, you will have a chance to discuss how you think the situations should have been/could have been handled. We would like you to begin by fitting it into the DIE model through the kind of quesitons we just discussed. Your next step will be to decide which of the communication skills would be most useful in working through these situations. Let's practice that part now. What communication skills do you think would be most helpful in trying to understand and accept the behavior exhibited in Case Study #1?

(Pam *write ideas on the flipchart)*

Pam **B. DISCUSS case studies in groups of 4**

10:45 *Introduce case studies:* We are now going to ask you to discuss two case studies in groups of 4.

(ALL *help people with group formation)*

Pam *Provide instructions:* In the next 15 minutes, we would like half of you to discuss Case Study #2: "Team Participation", (HANDOUT p. 11) and half of you to discuss Case Study #3: "The Gay Choir Posters" (HANDOUT p. 12)

After you have had a chance to read the case studies carefully to yourselves, first discuss with your group how to place it in the DIE model. Then go on to discuss which of the communication skills we discussed on HANDOUTS pp. 8 & 9 would be most effective for finding out enough information.

After 15 minutes, we will ask you to share what you learned from your discussion with the other group.

10:55 *Remind the groups they have 5 more minutes. . .*

Pam **2. DEBRIEF case studies in large group;**
11:00 **DISCUSS and account for differences in the DIE Model and choices of communication skills**

Facilitate group ideas: We would like to hear what each group decided

when when discussing its assigned case study. Why don't we start with those of you who read Case Study #2: "Team Participation". Please tell the other groups what the case study was all about and what kind of thoughts you had about it, both in terms of the DIE model and communication skills. How did those of you in different groups who discussed this case study differ in your analyses?

(Continue in the same vein with Case Study #2)

C. HARASSMENT IN THE WORKPLACE as it relates to Diversity

Susan **1. PRESENT Harassment in the Workplace**
11:15 *Present material;* (HANDOUTS pp. 13, 14 & 15)
facilitate group ideas:

Susan **2. DISCUSS Harassment Case Study #4: "The ChipNDales Calendar"**
11:25 *Provide instructions:* (See IV. B. 1. and HANDOUT p. 16)

Susan **3. DEBRIEF Harassment Case Study #4 in large group**
11:40 *Provide instructions:* (See IV. B. 2.)

Pam **D. CLOSURE: GOALS ASSESSMENT OF WORKSHOP**
12:00 *Lead discussion:* Now that we have almost completed our workshop for today, let's go back to the Workshop Goals to see how each goal was addressed. How did we meet these goals?

Make transition: In order to put these skills and ideas into practice in your workplaces, we are going to give you a reminder.

V. INDIVIDUAL CONTRACTS FOR SKILL PRACTICE IN THE WORKPLACE

Connie *Give instructions:* To summarize what we covered in today's workshop, we would like you to turn to the Contracts for Skills Practice on p. 13 in your packet of handouts.
12:05 As you can see, we are asking you to answer the questions about yourselves:

a. How can I apply the DIE model to situations at work which involve diversity?
b. What communication skills do I most need to work on in order to get all the facts and communicate effectively?

We would also like you to sign a reminder cared which will be sent to you in a month. This card also has space for sharing any progress or chances you've had for practicing the skills in your jobs. Please send these back again to either Pam Altrowitz at Schneider or Susan Wessman at AMS

VI. WORKSHOP EVALUATIONS AND TRAINING RECORDS

Darlene *Pass out and explain these handouts.*
12:15 (HANDOUTS pp. 17 & 18)

Pfizer SCHNEIDER

INTEROFFICE MEMO

To: Pamela Altrowitz
cc: Jan Dick
Eugene Larson

From: Frank Smaron
October 19, 1992

Subject: **PRODUCTION BREAKOUT SESSIONS FOR ISO**

I would like to take this opportunity to thank you for allowing the Steering Committee to use Lucinda McCormack and Mary Gallagher as a resource for our production breakout sessions. The time that they spent in preparation and their ideas for communication made the sessions both effective and enjoyable. I was extremely impressed by their dedication, knowledge of the audience and overall teaching abilities. I hope that we can continue to utilize their resources in the future.

ROBBINSDALE AREA COMMUNITY EDUCATION CENTER
4139 Regent Avenue North
Robbinsdale, Minnesota 55422
(612) 535-1790

December 3, 1992

DEC 6 1992

Pamela Altrowitz
Training Center Supervisor
Schneider Company USA
5905 Nathan Lane
Plymouth, MN 55442

Dear Pam:

Developing and implementing the Schneider: Robbinsdale Partnership has been a real growth experience for all the educators involved. In the beginning the planned tasks appeared to be well defined and reasonably straight forward. The Adult Academic staff expected to easily adapt instructional strategies to the new environment and to substitute on-the-job materials for familiar life skills curriculum materials. In looking back the teachers and I can smile at our original naivete and yet view with professional pride that which was accomplished.

Teachers created Schneider curriculum from written production process sheets and related communication tasks. Limited English proficient production workers measurably improved their skills in reading written directions and understanding oral communication. Literacy related training problems, i.e. traceability control forms, the eye piece and cultural diversity, were defined and appropriate training developed. Supervisory employees, through working with the teachers, gained greater understanding of what literacy and numeracy skills are as well as their relationship to satisfactory work performance.

The rapidity of changes that were experienced by Schneider during its "right sizing" put enormous stress on the Robbinsdale staff as well as the Schneider staff with whom the teachers worked closely. Implementing original plans became very difficult, and new directions were taken that could not have originally been foreseen. Robbinsdale staff changes also posed unforeseen problems and time constraints.

The Robbinsdale staff has appreciated the opportunity to learn about the world of manufacturing and the role of a training department. The staff have gained many new skills from their "learning" experience and a whole new conceptual framework; Good Manufacturing Practice (GMP), Just In Time (JIT) and Statistical Process Control (SPC) were really new for all of us. Everyone sincerely hopes that the work of the Adult Academic Program has had a positive impact upon the quality of Schneider's products, and we wish the company and all employees the very best.

Yours truly,

Mary B. Negri

Mary B. Negri, Coordinator
Adult Academic Programs

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INDEPENDENT SCHOOL DISTRICT 281
Robbinsdale Area Schools
Learning for a lifetime of growing

Linda Powell
Superintendent

SKILLS ENHANCEMENT: EMPOWERING EVERYONE TO SUPPORT THE QUALITY PROCESS

Pamela L. Streiff, Manufacturing Training Center Supervisor
Schneider (USA) Inc, Hospital Products Group, Pfizer Inc

ABSTRACT

Increased manufacturing competition, both nationally and internationally, forces continuous quality and service improvements. Schneider developed an innovative employee development program empowering employees to support the Total Quality Improvement process. Schneider established a business-education partnership to provide workplace literacy skills enhancement training for 100 Schneider Production and Inspection Employees, many of whom speak English as a Second Language. The Partnership took steps to:

- achieve organizational commitment
- receive Federal Department of Education grant monies
- develop a workplace skills application assessment tool
- design needs-based workplace functional literacy training
- involve employees in Program design, measurement and enhancement

INTRODUCTION

Schneider (USA) Inc is a Pfizer Company that manufactures medical devices such as coronary angioplasty catheters. In the last two years Schneider has implemented a new manufacturing philosophy, known in the Manufacturing Industry as "Just In Time" (JIT). Previously, Schneider production operators performed one job. The new JIT management style required operators to learn a variety of jobs. Expertise in many stages of product manufacturing, rather than a single operation, was now necessary. This placed new workplace skill demands on each employee. Essentially, new technologies and management styles required Schneider employees to use new skills to be effective participants in the continuous improvement process.

In addition, JIT placed increased responsibilities on Schneider employees. New requirements included the operation of technical equipment from several operations, participation in team activities, and problem-solving. Note that previously Schneider did not consider effective communication, interpersonal, and problem-solving skills as central to an operator's quality performance. Suddenly, successful manufacture of a quality product required attracting, developing, and retaining quality people. Therefore, employee training became a critical investment in Schneider's ongoing efforts as a world class manufacturing organization.

The "Skills Enhancement Program" was created to address this requirement for developing and retaining quality people. Schneider believes that Program rewards to the Company and individual employees will far outweigh initial Program investments by empowering employees to participate more fully in the Quality Improvement Process.

This paper will first overview the history of the Skills Enhancement Program, from gaining executive commitment to the awarding of grant monies. Next, Program implementation will be reviewed by examining key Program goals and progress to date. The rationale for a Workplace Literacy, rather than a Literacy or Basic Skills Program will also be explained. Finally, the Schneider Program's methods will be highlighted, showing how to effectively cultivate measurable skill enhancements.

HISTORICAL OVERVIEW

In order to establish need for the training, the Schneider Employee Development Department hired a University of Minnesota graduate intern to assess employee skill levels. She completed a confidential, voluntary Workforce Skills Assessment at Schneider using the Adult Basic Learning Examination (ABLE). She also conducted a parallel study focusing on the readability of manufacturing documentation. The results of this assessment, employee interviews, and the readability studies showed that many Schneider employees were in need of training to improve their ability to read and use basic math on the job. Employees demonstrated a wide range of skill levels, from 2nd grade reading equivalency to post-high school. In individual interviews, employees stated that their skill level limited their ability to learn new responsibilities. Clearly, there was a need for the development of a skills enhancement program.

Upon review of the assessment data summary, Schneider's Senior Executives made it a business strategy to address this need for improved employee skills. They committed to provide the resources necessary to foster the employee skills development process. Schneider Personnel's Employee Development Department began the process of making the Skills Enhancement Program a reality by researching potential education service providers. Upon review of the top three vendor proposals, one vendor showed the intent to work in partnership with Schneider to provide an effective, customized, skill based, measurable program.

The education service provider selected was the Robbinsdale Adult Academic Program (RAAP) from Independent School District 281, Minnesota. RAAP established a mission in their January 1989 Three Year Strategic Plan: ". . . to provide accessible, integrated instructional programs for community adults who desire assistance in acquiring basic academic skills for the purpose of meeting personal and employment goals." Robbinsdale indicated a desire to learn more about workplace literacy requirements and improve their ability to meet community needs. Therefore, Robbinsdale agreed to work with Schneider staff to create the Skills Enhancement Program. The Schneider and Robbinsdale staffs had officially committed to pursuing a Partnership.

The new business-education partners completed discussions of the preferred type of curriculum and educational services. Program planners became so committed to program concepts that they decided to apply for funding through the Federal Department of Education Workplace Literacy Program. The Robbinsdale Adult Academic Program Manager worked with the Schneider Manufacturing Training Center Supervisor to draft a program plan and write a proposal. Their early investment in planning and development paid off. The Department of Education (DOE) approved Schneider's application, providing the requested thirty percent (30%) of the Program's expenses, or $113,760. Schneider provided the remaining resources required to support the Program, at an in-kind contribution worth of the remaining 70% of program expenses. The DOE grant established the Schneider Skills Enhancement Program as a Federal Demonstration Workplace Literacy Site.

In fiscal year 1991, Schneider became the only for-profit business applicant funded by the DOE to conduct a Workplace Literacy Program. All other program organizations funded were education providers, education consortiums, or Unions. Schneider's program is also unique because Schneider recognized the need for employee skills training without solicitation from an education service provider. This makes the Program dissemination process (whereby the Skills Enhancement Partners share Program findings) of key interest to other education service providers and business organizations.

PROGRAM GOALS

The Program Partnership, known as the Skills Enhancement Team (SETeam) identified four possible areas of Workplace Literacy concentration. The areas in which the Partnership could address the workplace literacy issue included:

- current employee competency for current job responsibilities
- current employee competency for future job responsibilities
- current applicant competency for job responsibility
- future applicant competency for job responsibility

The partners selected current employee competency for current job responsibilities as their primary focus within the Skills Enhancement Program, and set five Program goals. The goals and objectives for each of the four concentration areas and their relative priority are identified below.

Current Workforce Competency for Current Job Responsibilities
(The 1st Priority)

1. ORGANIZE A MODEL WORKPLACE LITERACY PROGRAM.
    - Establish an exemplary partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, School District 281, from the State of Minnesota.

2. CONDUCT A LITERACY AUDIT AND DEVELOP AN ASSESSMENT TOOL.

    - Determine what communication skills --reading, writing, speaking and listening--are needed by manufacturing employees at Schneider

- Identify specific basic skill deficiencies that impact ability to do the job effectively and:
    1. prevent or hinder successful job performance,
    2. endanger ability to maintain employment, or
    3. endanger ability to achieve promotion

- Develop and implement a valid means of screening Program applicants for the basic skills/competencies that Schneider requires for successful performance

3. FACILITATE EMPLOYEE INTEREST IN AND COMMITMENT TO THE PROGRAM.

- Develop Personal Education Plans for each employee, with them, their Supervisor, the Instructors, and the Counselor to identify specific individual needs and learning objectives.

- Encourage employee involvement at each stage of the Program.

4. PROVIDE INDIVIDUALIZED INSTRUCTION.

- Focus on employees who have inadequate basic skills and based on personal judgement are:

    a. unable to perform their job effectively,
    b. ineligible for career advancement due to an identified lack of basic skills, or
    c. unable to retain employment due to Schneider's increasing technology and the demands this technology places on medical manufacturing employees.

- Provide functional contextual training opportunities facilitating skill improvement to minimum competency level.

5. MEASURE AND EVALUATE PROGRAM.

- Identify outcomes and benefits to Schneider and the employees served.

- Establish a pilot for each learning module, working with Management to affirm training validity and confirm desired outcomes are accomplished.

Current Workforce Competency for Future Job Responsibilities
(The 2nd Priority)

- Identify skills that will be fundamental basic skills for the future.

- Provide functional contextual training opportunities to initiate skill development.

Current Applicants Competency for Job Responsibility
(The 3rd Priority)

- Implement a valid means of screening applicants for the basic skills competencies Schneider requires for successful performance before hiring further production employees.

- Plan training (when feasible) to develop minimum competency for applicant/employees where deficient critical skills can be attained within initial training.

Future Workforce Competency
(The 4th Priority)

- Develop a partnership between Schneider, community agencies, and community educational providers who have the goal of improving the community's available workforce skills. Work together to maximize the yields of the partners' efforts.

PROGRAM DESIGN

The Literacy Audit and Assessment Tool Development

The Skills Enhancement Team, or SETeam, began program implementation by conducting a literacy audit. This task analysis of competent Schneider employees performing their job functions confirmed specific Schneider employee skill needs. The SETeam then compiled a list of the skills employees must apply successfully to reach the "required" performance rating. Using this knowledge, the SETeam developed an assessment tool to measure employee ability to use and apply Schneider workplace literacy skills. Great care was taken to use workplace situations, materials, vocabulary and processes in creating this assessment tool. After piloting the assessment, a management staff questionnaire was developed and conducted. Evaluation of both the assessment and questionnaire showed that the skills identified as deficient in the assessment were the same ones identified by management as most critically in need of remediation in the questionnaire.

Curriculum and Training Methodology

To address these skill development issues, training methods and activities used in the Program were designed to address individual or group workplace literacy needs. Curriculum designers selected workplace documents, terminology, materials and situations to maximize the potential for immediate application of learned skills, and instructors applied adult learning concepts and techniques.

Note that this workplace-centered method of instruction placed the training in a functional context, a critical component of successful adult learning. Instruction and immediate application of employee training in a workplace context was possible because learning experiences were relevant to the learners. In addition, normal hands-on process training and regular work duties reinforced the classroom training and aided in skill transfer.

Employee Participation

From the start, the SETeam worked to involve other Schneider employees in the Program whenever possible. Eventually, the Partnership took on a new definition--it came to include not just the Schneider Program Director and RAAP staff, but also other Schneider employees: participants, Supervisors, Group Leaders, peer tutors and other interested employees. For example, employees volunteered to participate in the Program classes, supported curriculum development, suggested training opportunities to Program staff, evaluated materials, and reviewed and evaluated training results.

In its initial phase, called "the Summer Session", the Program held training sessions on site, on work paid hours to reduce barriers to participation, such as childcare expense and transportation. Employees especially appreciated this, and were very demanding of instructors. Since they were learning on paid work time, employees insisted that instructors help them do their job better, training had to make them more productive!

Teachers worked with a maximum of 13 students in a class. The exact number served in a group depended upon specific skill needs. Employees were placed in classes with other employees of similar skill improvement needs. Some employees required individual tutoring to meet specialized individual or scheduling needs.

Evaluation Design

Evaluation of the Program was also a key factor in the design. The Partnership hired an "Outside Program Evaluator" and worked with her to complete the definition of its two evaluation components. In the first evaluation phase, formative evaluation, staff would gather evaluation data, review it, and make program revisions. The second evaluation phase, summative evaluation, would study key Program outcome indicators. The summative evaluation will be conducted by the Evaluator and reviewed upon Program completion.

SKILLS ENHANCEMENT PROGRAM EVALUATION PLAN

This evaluation plan has been commissioned by Schneider, Inc., and Robbinsdale Area Schools for the Skills Enhancement Program.

Evaluation purposes:

The evaluation has two major purposes. The formative component is to give the project staff ongoing feedback regarding the strengths and weaknesses of project activities so that strengths can be built upon and weaknesses addressed. The summative component is designed to determine the outcomes of the project.

Evaluation Audiences:

The evaluation audiences for this evaluation are as follows:

Formative Evaluation	Summative Evaluation
♦ Project Staff	♦ U.S. Department of Education
♦ Project Advisory Committee	♦ Schneider Management
	♦ Project Staff
	♦ Project Advisory Committee

Evaluation Questions:

- Formative Evaluation Questions:
    - What are the strengths of the project?
    - What aspects of the project are working?
    - What are the weaknesses of the project?
    - Where is improvement or change needed?
    - What factors are promoting or limiting success?
    - What can project staff do to address areas of concern and weaknesses?
    - What can project staff do to build on strengths?

- Summative Evaluation Questions:
    - Did participants improve their literacy skills? If yes, in what ways? Were the changes in skills significantly different from control groups?
    - Were participants satisfied with the instruction received? What benefit do participants believe came from participating in the Program? What benefit do participants believe the company gained from the Program?
    - What were the outcomes from the Program in the areas of:
        - Educational reimbursement policy benefits?
        - Changes in attendance/sick leave?
        - Promotions for "locked in" employees (Merit increases; skill points)?
        - Employee retention?
        - On job injuries?
        - Product scrap?
        - Product cost (Labor efficiency)?
        - Problem solving skills?
        - Productivity (earned versus Actual Hours)?

INITIAL PROGRAM OUTCOMES

The key initial Program outcomes (for each goal area) include:

Organize a Model Workplace Literacy Program

- The Program Evaluator listed factors that promote Program success in her August 1991 start-up evaluation: ". . .
    - The team is dedicated and in most cases able to problem solve about programmatic issues.
    - The counselor and teachers are from Robbinsdale and are not Schneider employees. This has lead to employees opening up about their issues and concerns.

- Schneider appears to be committed to the project."

- The Skills Enhancement Team has shown great enthusiasm in working together and meeting the challenges facing them in implementing the Program. One such major accomplishment was achieving commitment of the Production Management Team to release employees on work time despite potential JIT line disruptions.

Conduct a Literacy Audit and Develop an Assessment Tool

- The SETeam devised and conducted the task analysis.

- The SETeam developed and piloted an assessment tool. This essentially created management support, even to the extent of their endorsing pulling people off the JIT production line for training!

- The SETeam created and evaluated a management questionnaire which confirmed the priority of the initial assessment findings.

Facilitate Employee Interest in and Commitment to the Program

- Although employees could easily fear participation, expecting to lose their job over a confirmed lack of skills, this has happily not been the case. The Program Staff has carefully maintained confidentiality of individual skill assessment results. This emphasis on confidentiality has helped ease employee fears.

- The good relationship cultivated between Program staff and Schneider employees, both participants and Management staff, also maintained employee confidence. Managers are happy to see improvements in skills application on the job.

- Students identified training needs during the session, which helped meet their needs more precisely.

Provide Individualized Instruction

- More than sixty-two Schneider employees have participated in Program classes to date.

- Various workplace training modules have been developed, including "Math at Work I and II", "English as a Second Language", "Traceability and Documentation" (reading and writing on job forms), and "Skimming & Scanning for Information".

- The Personal Education Plans show progress toward completion of personalized objectives. Students asked to continue in the Program upon completion of their first session.

Measure and Evaluate Program

- The assessment tool has been developed and piloted. Preparations are underway to complete assessment of new

Program applicants. A second assessment of Program participants upon Program completion will evaluate the effect of the training on workplace literacy skills application.

- The Program Evaluator completed the Summer Session evaluation.

- The Management team has given feedback and is participating in task forces to devise, pilot and evaluate curriculum for their priority skills training needs.

- OUTCOMES FROM PROGRAM START-UP--COMMENTS FROM STUDENTS

ESL and Tutoring:
"It helps us a lot, we learn how to listen to people talk, help us with our converation <SIC>, helps us understand the processes at work."

"Before I could not understand what people say, now I really understand."

"I now know how to follow process, to do my job."

"I know how to ask for information if I don't know what they said."

"My comprehension is better."

"My speaking is better."

"I can write better."

"This class helps Schneider because if we are good at communication we understand each other better and can improve the product."

"Often we see a problem but we can't tell anyone what the problem is. We don't have the language to explain the problem."

"I can read process sheets better."

"The class helped me improve my English. It help me understand more of my work."

"It makes us proud to speak English."

"We are not shy to speak up."

"We better listen how other people talk and now understand what they are saying."

Math at Work

> "It helped us. There were times when working with the engineers that we did not know what they wanted. The teachers broke it down for us, for example how to use the eye piece."

DECEMBER 1991 PROGRAM STATUS

The Schneider Skills Enhancement Team Partnership has made progress toward each of its Program objectives. Program staff, Management, and employees have committed time and energy toward the overall goal of enhancing employee skills. Management has worked with the SETeam to refine and improve the Program, volunteering to work on task forces to devise, pilot and evaluate curriculum for their priority skills training needs. One task force, including SETeam members, Management and Inspectors are working together to focus on curriculum development for the priority training need, "Traceability and Documentation Basic Training". Efforts are underway to plan the Winter session. Future Training plans will include Management reinforcement/support modules, such as "Training and Coaching a Diverse Workforce".

SUMMARY

Both Schneider and Robbinsdale staff have found this project to be an enriching, fulfilling, and challenging one. The Robbinsdale staff has commented several times that normally, their community students are more "passive observers", happily accepting whatever training the teachers provide. At Schneider, however, Instructors have found the students are "active participants", who bring materials and training opportunities with them to class. The employees get involved, and demand that they gain work-applicable skills from the training. Several employees have asked the SETeam to give them homework, or let them attend both the first and second shift classes. Schneider Senior Executives and Schneider Management are pleased to support this training, which affects both worker productivity and empowers them to participate more fully in the Continuous Improvement Process.

BIOGRAPHICAL INFORMATION

Pamela Streiff has over ten years in the medical manufacturing environment, ranging from Line Operator to Manufacturing Training Center Supervisor. She has been with Schneider since 1986, beginning as a Production Supervisor. Two years ago Streiff put her educational background to use for Schneider as its Employee Development Specialist.

While serving as Employee Development Specialist, Streiff planned, justified and convinced Senior Management to establish a Manufacturing Training Center and the innovative Skills Enhancement Program at Schneider. Streiff is a member of both the Association for Quality and Participation and the American Society for Training and Development.

SKILLS ENHANCEMENT:
Empowering Everyone to Support the Quality Process

WORLD CLASS

Pamela Streiff
Manufacturing Training Center
Supervisor

Pfizer SCHNEIDER

Schneider (USA) Inc
Pfizer Hospital Products Group
5905 Nathan Lane
Minneapolis, MN 55442
Tel 612 550 5548 Fax 612 550 5761

DISSEMINATION

SCHNEIDER (USA) INC develops, manufactures, and markets minimally invasive human medical devices to practitioners of interventional medicine. Our goal is to be the Company of choice in providing innovative and cost-effective product solutions and quality-driven customer service through a diverse, responsible, and knowledgeable work team wherein all Employees are treated equitably, honestly, and respectfully.

Pfizer SCHNEIDER

LITERACY SKILLS TRAINING

teaches an individual literacy skills related to daily life activities

WORKPLACE LITERACY SKILLS TRAINING

teaches an individual literacy skills and how to apply them within work situations

KEY ISSUE ═ What is workplace literacy training and how does it enable employees to support Total Quality Management Systems?

NOTES

Successful Empowerment

begins with a culture where people are trained in the critical skills necessary to take advantage of opportunities and to overcome obstacles that challenge performance on a daily basis.

RAPID CHANGE IN SCHNEIDER'S WORKPLACE:

1) The incorporation of statistical process controls;

2) More sophisticated international competition;

3) Shortened product development and launch cycles;

4) Increasingly complex process technologies;

5) Stringent FDA regulations and reporting requirements;

6) New management strategies such as Just-In-Time; and

7) Increasing diversification of the workforce (limited-English speaking workers, high-school dropouts etc.).

THE SUMMER ASSESSMENT

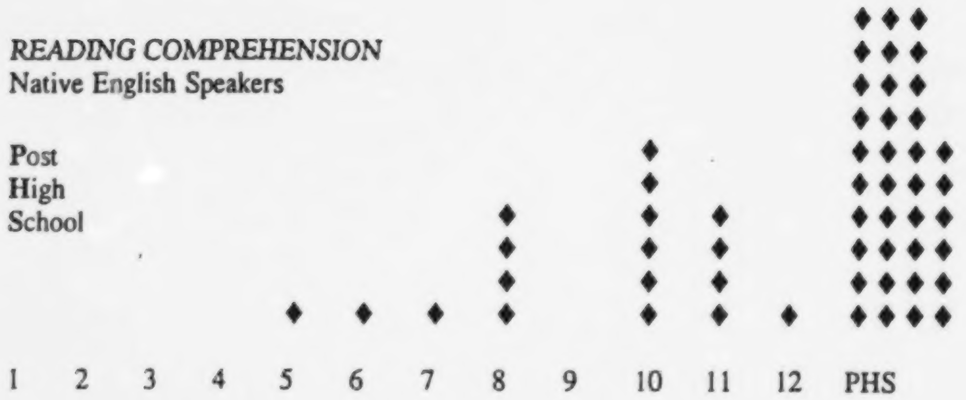
1. On line observation

2. Formal Standardized Testing

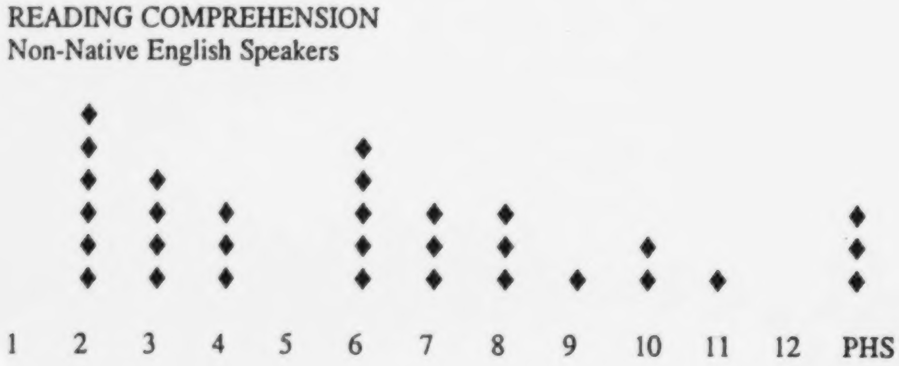
native and non-native English speakers

exhibited a broad range of skill levels

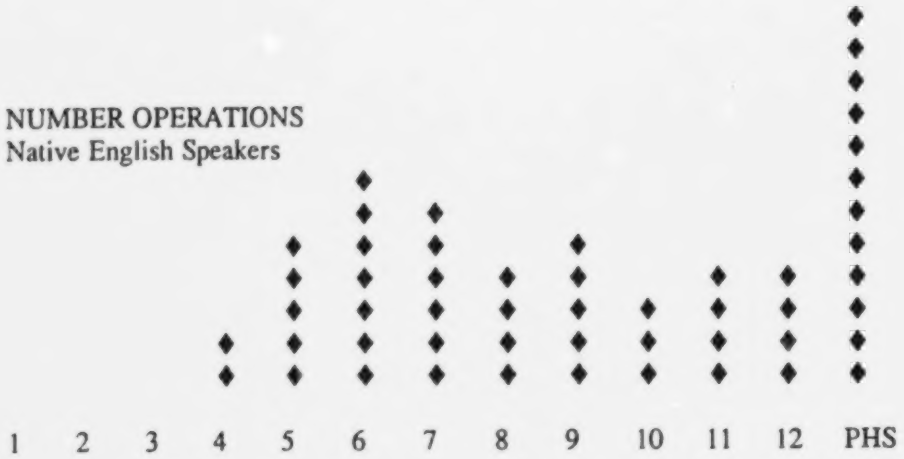
NOTES



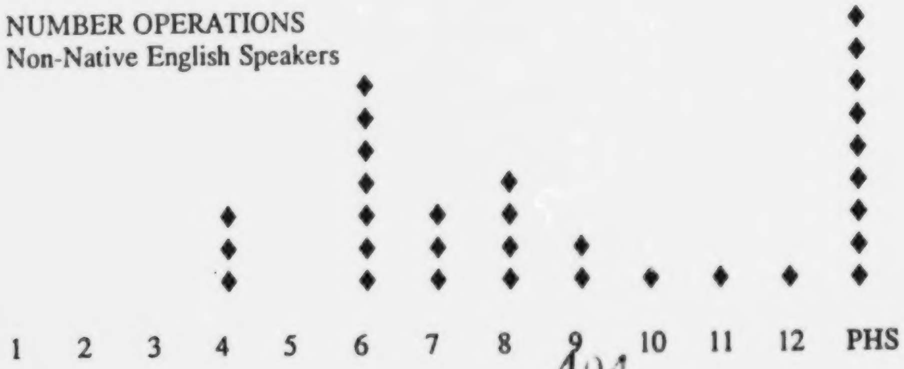
READING COMPREHENSION
Native English Speakers



READING COMPREHENSION
Non-Native English Speakers



NUMBER OPERATIONS
Native English Speakers



NUMBER OPERATIONS
Non-Native English Speakers

NOTES

Effective communication, interpersonal, and problem solving skills have become more and more critical to quality performance.

Thus, employee skills are recognized as a critical factor in Schneider's effort to be a world class manufacturing organization.

Training is a necessary investment in a world class organization.

THE VENDOR SEARCH

The University of Minnesota
Area Vocational Technical Colleges
School Districts

The Adult Academic Program of the Robbinsdale Area Schools, ISD 281, was selected by Schneider staff to participate in this project.

Reasons:

- success of programs
- experience with employee families in community literacy
- experience with workplace literacy
- experienced educators (theory and practice)
- strong status in the community
- clear interest in the partnership

AREAS IN WHICH TO ADDRESS WORKPLACE LITERACY

Employees, Current skill needs	Applicants, Current skill needs
Employees, Future skill needs	Future Applicants, Future skill needs

THE WORKPLACE LITERACY GRANT

Provide competency-based, job related workplace literacy education to employees, many of whom have limited English proficiency, to develop and apply required vocabulary, reading, writing, speaking, listening, problem solving and math skills.

AIM TO

1. Promote skills impacting improved worker quality and productivity
2. Enhance potential for current job retention due to the increased skill requirements of the changing workplace
3. Provide the skills supporting career advancement.

PROGRAM OBJECTIVES & GOALS

1. Establish Partnership
2. Conduct Task Analysis/Develop Assessment Tool
3. Achieve Involvement/Commitment
4. Provide Instruction
5. Evaluation

NOTES

1. ESTABLISH A BUSINESS EDUCATION PARTNERSHIP:

The Skills Enhancement Team (SETeam)

Management
Employee Development
Employees
Adult Academic Program

Our Charter: To identify and realize the developmental needs associated with meeting Business Imperatives and creating Continuous Improvement.

NOTES

PARTNERSHIP

Implies a relationship in which people cooperate in a venture, occupation, or challenge. Each partner has equal status and a certain independence, but also implicit or formal obligations to the other(s).

American Heritage Dictionary

PARTNERSHIP BENEFITS

1. Identify needs requirements
2. Reduce development and delivery time
3. Evaluate to learner outcomes
4. Accountability
5. Increased yields & labor efficiencies
6. Support environment of Total Quality
7. Maintain Governmental Regulatory Compliance

2. CONDUCT TASK ANALYSIS/DEVELOP ASSESSMENT TOOL:

TASK ANALYSIS: Observe competent employees on the job to identify skills needed to function effectively.

1. Observe competent employees on-line in eight positions
2. Interview competent employees off-line
3. Interview supervisors
4. Compile information gathered
5. Develop objectives for use in curriculum development

ASSESSMENT: Develop an assessment tool to establish the initial proficiency of participants in the five skill areas

SKILLS:

1. SPEAKING
2. LISTENING
3. READING
4. DOCUMENTING
5. PROBLEM SOLVING

3. ACHIEVE EMPLOYEE INVOLVEMENT/COMMITMENT:

Needs Assessment/Testing

Planning/Scheduling

Pilot

Curriculum Development

Personal Education Plan

Evaluation

NOTES

4. PROVIDE INSTRUCTION:

Focus on employees who have inadequate basic skills and based on personal judgement are:

a. unable to perform their job effectively,

b. ineligible for career advancement due to an identified lack of basic skills, or

c. unable to retain employment due to Schneider's increasing technology and the demands this technology places on medical manufacturing employees.

COMMENTS FROM CLOSURE LETTERS THAT STUDENTS WROTE--AUGUST 7, 1991

- "The most important thing is that we learned how to listen to people when they speak fast."
- "What I learned related to my job. I don't need to ask my group leader what to do on the job anymore."
- "I had a hard time to read and understand. Now I feel better with reading a lot of new words that I didn't know before."
- "This company is good because it supports an employee who wants to learn some more."
- "Thank you ESL class!"

5. MEASURE/EVALUATE:

PROGRAM OUTCOMES

- Personal Education Plan objective completion
- Cross-training
- Promotion
- Scrap costs
- Attendance records

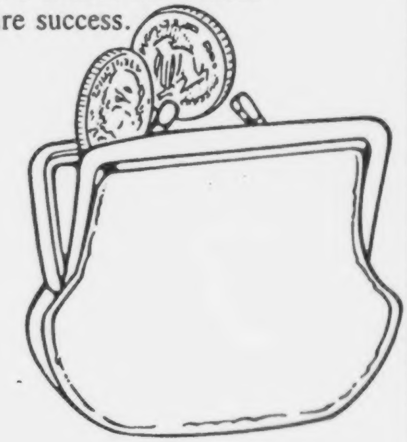
OTHER ELEMENTS

- Demonstrated problem solving ability
- Quality
- Productivity
- Team work
- Compensation
- Relationship between supervisors and employees
- Fewer accidents affecting productivity, employee safety, or both.

NOTES

Schneider's people are its single greatest asset.

Training represents a critical investment in Schneider's future success.



SCHNEIDER's success depends upon its employees being equipped to handle the demands of the future.

SCHNEIDER's employees of the nineties will be required to apply not **hands** but also **mind** on the job.

Versatility, problem solving, teamwork and excellent communication skills need to become the hallmark of each SCHNEIDER employee, not just of the exceptional employee.

The Skills Enhancement Program aims to provide training which enables SCHNEIDER EMPLOYEES to contribute effectively to efforts to achieve corporate goals.

NOTES

SCHNEIDER SKILLS ENHANCEMENT PROGRAM

This project has combined proven adult learning techniques with specific job related literacy requirements. To ensure skills taught correlate to the literacy requirements of the actual jobs, coordinators, instructors, participants and supervisors have worked together to:

1. Identify specific job tasks, studying and observing the work environment to determine the basic skill levels required for functional competence
2. Create and administer pre- and post-assessment tools to identify developmental needs and outcomes
3. Select learning objectives, developing individualized Personal Education Plans (PEPs), and selecting workplace measurement factors
4. Develop curricula for specific vocabulary, reading, writing, speaking, listening, math, and problem solving skills necessary for functional competence on the job
5. Incorporate new knowledge and skills into existing schema, selecting actual job tasks--including contexts, processes and materials--in which to imbed instruction
6. Correlate basic skills education with other technical or academic training to ensure a multiplicity of application and transfer opportunities, and enhance program outcomes
7. Evaluate the program's effectiveness, establishing and assessing measurable outcomes and collecting relevant anecdotal information

The Skills Enhancement Program has utilized curriculum materials derived from documents, reports, forms, memos, job postings, and charts participants see and use regularly. This material has been developed specifically to target the needs of individuals or groups of participants as identified in the Personal Education Plans thereby maximizing the benefits of learners' prior job knowledge and increasing the job knowledge base for future use.

The Schneider (USA) Inc Skills Enhancement Program is a National Demonstration Workplace Literacy Project. Approximately seventy percent of expenses are paid by Schneider with thirty percent funded through a United States Department of Education Workplace Literacy Grant.

For additional information on the program, or to request copies of program materials (which may be provided at cost), please contact:

Pam Streiff, Skills Enhancement Program Director
Schneider (USA) Inc
5905 Nathan Lane
Plymouth, MN 55442 (612) 550-5500, extension 5548

Skills Enhancement Partnership Meeting
Tuesday, December 10, 2:30 - 4:00 P.M.
Skills Enhancement Team (SETeam) and Production Management

AGENDA:

	WHAT	WHO	TIME
I.	**Welcome**		
	Introductions Meeting Purpose Partnership Excellence	W. Malinsky SETeam member	10
II.	**The Grant Partnership**		
A.	Brief Historical Overview	Pam Streiff Program Director	5
B.	Who Robbinsdale is-- Why we do this	Mary Negri Robbinsdale AAP Manager	5
C.	The Goals	Pam Streiff	5
III.	**Program Progress to Date**		
A.	Task Analysis	Irene Kaplan Language Arts	5
B.	Summer Classes	Darlene Hetland Language Arts	5
C.	Fact Finding--Math	Nancy Palmer Math at Work	5
D.	Assessment Instrument, Personal Education Plans	Mary Gallagher Development Counselor	5
E.	Confidentiality	P. Streiff	2
F.	Questions	P. Streiff	8
IV.	**Partnership--Working together to plan an effective future**		
	The Survey Results Issues/Resolution Group Activity Refreshments	P. Streiff	35

. . . . **Total meeting time = 90**

The Schneider Skills Enhancement Program

Schneider (USA) Inc is a Pfizer Company which manufactures medical devices such as coronary angioplasty catheters. Schneider has implemented a new manufacturing philosophy, known in the Manufacturing Industry as Just In Time (JIT). Previously, Schneider production operators performed one job. The new JIT management style required that operators learn many jobs, and become expert in many stages of product manufacturing, not just a single operation. This placed new workplace skill demands on each employee. Schneider employees must be competent at multiple positions to be an effective participant in the continuous improvement process.

In addition, JIT placed increased responsibilities on Schneider employees, such as the operation of technical equipment from several operations and participation in team activities and problem-solving. These skills were not required at the time the employee was hired. Thus effective communication, interpersonal, and problem solving skills became more and more central to quality performance. The first requirement to achieve Quality product is quality people. Therefore employee training became recognized as a critical investment in Schneider's efforts to be/become/remain a world class manufacturing organization.

Schneider developed its Skills Enhancement Program to address this requirement for developing and retaining quality people. This exciting Program empowers Schneider employees to participate more in the Quality Improvement Process. The rewards of this Program are expected to far outweigh initial investments.

This paper will first overview the history of the Skills Enhancement Program from convincing executives of need to the awarding of grant monies. Then the Program's rationale will be discussed, examining each of the key Program goals and progress to date. The rationale for a Workplace Literacy rather that a Literacy or Basic Skills Program will be explained, highlighting why the Schneider Program's methods are more effective in cultivating measurable skill enhancements.

Historical Overview

In the Summer of 1990, a confidential Workforce Skills Assessment was conducted by a graduate intern using the Adult Basic Learning Examination (ABLE). In addition, the readability of manufacturing documentation was studied. The results of the assessment, employee interviews, and readability studies showed clearly that a significant number of Schneider employees were interested in and would benefit from an in-house Skills Enhancement Program. Employees showed a wide range of skill levels which at times limited their ability to learn new responsibilities.

Upon review of the data, Schneider's Senior Executives made it a business strategy to address the need for improved employee skills. Schneider committed to being actively involved in the development process. A search of potential training suppliers was made through Schneider Personnel's Employee Development Department. Three vendors were asked to submit proposals. Upon close examination one demonstrated the ability to meet the identified needs as well as the desire to work in partnership with Schneider to provide an effective, customized program.

The educational provider selected was the Robbinsdale Adult Academic Program (RAAP) from Independent School District 281, Minnesota. RAAP established their mission in their January 1989 three year strategic plan "to provide accessible, integrated instructional programs for community adults who desire assistance in acquiring basic academic skills for the purpose of meeting personal and employment goals." Robbinsdale was interested in knowing more about workplace literacy requirements, so as to better serve the needs of the community, and agreed to act as partner with Schneider on the Skills Enhancement Program. Please refer to page 6 in the appendix for a more detailed explanation of Robbinsdale's rationale of involvement in this Program.

Discussions of the preferred type of educational curriculum/service desired were initiated by the business/education partners. It was determined that funding through the Federal Department of Education Workplace Literacy Program could be requested. Mary Negri, Robbinsdale Adult Academic Program Manager worked with Pam Streiff, Schneider Employee Development Specialist to draft a program plan and write a proposal. This early investment in planning and development paid off; the Department of Education (DOE) approved Schneider's application and awarded $113,760, approximately thirty percent (30%) of the Program's expenses.

Schneider's application to the DOE was the only Fiscal Year 1991 Workplace Literacy Program funded in which a for-profit business partner directs the program, and selected/recruited their education partner. All other program directors/organizations funded were educational providers, educational consortiums, or Unions. This makes Schneider's Program particularly interesting to other educational service providers and business organizations, and makes dissemination of the Program more critical.

Program Goals:

The Program Partnership, known as the Skills Enhancement Team (SETeam) saw four areas in which the workplace literacy issue at Schneider could be addressed: A) current employee competency for current job responsibilities; B) current employee competency for future job responsibilities; C) current applicant competency for job responsibility; and D) future applicant competency for job responsibility. A) was selected, and five Program goals set. Refer to page 7 in the appendix for details of Program goals and objectives.

Program Organization:

The Partnership initiated their work together with a literacy audit, confirming needs by conducting a task analysis of competent Schneider employees performing their jobs. The team compiled a list of the skills which employees must apply successfully to achieve excellent performance. Using this knowledge, an assessment of ability to use and apply Schneider workplace literacy skills was developed using workplace situations, materials, and processes. A parallel questionnaire of management staff showed that the skills identified as deficient in assessments were the same ones identified by management as most critically in need of remediation.

Training methods and activities used in the Program were appropriate to individual or group workplace literacy needs. Proven adult training concepts and techniques were applied. In order to maximize the potential for application of learned skills, the curriculum was designed using workplace documents, terminology, materials and situations.

Note that this method of instruction placed the training in a functional context. In addition, the classroom training was reinforced during normal hands on process training and in the course of doing the job. The functional context represented a critical component of successful adult learning--learning experiences were relevant, employees were trained in a context where immediate application was possible.

The SETeam worked to involve other Schneider employees in the Program whenever possible. The partnership was thus expanded to include not just the Schneider Program Director and RAAP staff, but also other Schneider employees: participants, Supervisors, Group Leaders, peer tutors and other interested employees. For example, employees were brought in on curriculum development, suggesting training opportunities to Program staff, evaluating materials, and in reviewing and evaluating training results.

The Program started with classroom training paid, on site, on work hours in order to reduce barriers to participation such as childcare expense and transportation. Teachers worked with a maximum of 13 students in a class. The exact number served in a group depended upon specific skill needs. Some employees required individual tutoring to meet specialized individual or scheduling needs.

The Program's two evaluation components were detailed. In the first, formative evaluation, evaluation data is being gathered and reviewed on an ongoing basis throughout the Program. Summative evaluation will be reviewed upon Program completion, and will study key Program outcome indicators. Please refer to page 9 in the appendix for the Skills Enhancement Program Evaluation Plan.

Results

Initial results of the Program show progress is being made, and have indicated areas where improvements are needed.

1. ORGANIZE A MODEL WORKPLACE LITERACY PROGRAM
   The Program Evaluator indicated that the Partnership has shown an ability to work together to understand each other and resolve issues. The Skills Enhancement Team has shown great enthusiasm in working together and meeting the challenges facing them in implementing the Program. One such challenge is better identifying the roles of each of the non-SETeam members of the partnership, such as the Production Management Team.

2. CONDUCT A LITERACY AUDIT AND DEVELOP AN ASSESSMENT TOOL
   The task analysis was performed.
   An assessment tool has been developed and its use implemented. A management questionnaire has confirmed the initial assessment findings.

3. FACILITATE EMPLOYEE INTEREST IN AND COMMITMENT TO THE PROGRAM
   Organizational changes at Schneider, including a voluntary resignation program, have impacted the Skills Enhancement Program. These have created a less than desirable environment. Employees could easily fear participation, expecting to lose their job over a confirmed lack of skills. However, this has not been the case. The confidentiality which the Program Staff has maintained of individual skill assessment results has helped ease employee fears, as has the good relationship cultivated between Program staff and Schneider employees, both participants and Management staff in developing Personal Education Plans.

4. PROVIDE INDIVIDUALIZED INSTRUCTION
   More than sixty-two Schneider employees have participated in Program classes to date.

   Please refer to the appendix for the English as a Second Language and Math at Work Summer Instructors' reports, sample training materials, and other relevant information.

5. MEASURE AND EVALUATE PROGRAM
   The assessment tool has been developed and administered to a first group of employees. Another assessment upon completion of the program will indicate the effect of the training.

   The summer session was evaluated by the Program Evaluator. Please refer to pages 10-13 in the appendix for the report.

APPENDIX

ROBBINSDALE AREA COMMUNITY EDUCATION CENTER
4139 Regent Avenue North
Robbinsdale, Minnesota 55422
(612) 535-1790

ADULT ACADEMIC PROGRAM

"The mission of the Adult Academic Program is to provide learner-centered instructional programs that are truly accessible to community adults who desire assistance in acquiring academic skills necessary to be successful on the job and in society."

More than 300,000 adult Minnesotans are unable to read, write, compute, problem-solve or cope with changing conditions sufficiently well to meet the requirements of adult life. Many of these adults are gainfuly employed, yet they lack the skills needed to perform their jobs satisfactorily.

The Adult Academic Program is part of the Adult Basic Education (ABE) delivery system of the State of Minnesota. The program is funded by a combination of local taxes, state funds and federal aids. There is no charge to attend the program, and the program is open to any adult over the age of 16 who is not enrolled in a regular school program. Individualized instruction is learner-centered, participatory and experiential. That is interactive and is predicated upon the assumption that true learning is based on meaningful experiences.

Over 1,000 adults will request service from the Adult Academic Program during the 1991-1992 school year. Some will seek to improve basic reading, writing and math skills in preparation to entering a vocational training program or employment. Some will seek to prepare for the General Educational Development (GED) Test Battery in order to obtain a high school equivalency certificate. Some will seek to complete the requirements for a traditional high school diploma. Some will seek to learn English as a Second Language and prepare for employment in their new country. Skill levels of entering adults vary from non-readers, non-speakers of English to adults merely needing a slight brush up on skills.

The Adult Academic Program has cooperated with local employers, assisting them in improving the skills of employees. At times employers have referred employees to one of the community sites. At other times the Adult Academic Staff have provided specific instruction for employees either at the community site or at a site of the employer's choosing. Sometimes employers have sought job-related basic skills instruction for employees and at other times employers have not required that instruction be job related.

WORKFORCE SKILLS ENHANCEMENT CONCENTRATION OPTIONS & GOALS

A. Current Workforce Competency for Current Job Responsibilities

The 1st Priority

1. ORGANIZE A MODEL WORKPLACE LITERACY PROGRAM, establishing an exemplary partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, an LEA from the State of Minnesota.

2. CONDUCT A LITERACY AUDIT, determining what communication skills --reading, writing, speaking and listening--are needed by manufacturing employees at Schneider.

   ♦ Identify specific basic skill deficiencies that
      1) prevent or hinder successful job performance,
      2) endanger ability to maintain employment, or
      3) endanger ability to achieve promotion

   DEVELOP AN ASSESSMENT TOOL, identifying skill deficiencies which impact ability to do the job effectively.

   ♦ Implement a valid means of screening Program applicants for the basic skills/competencies Schneider requires for successful performance.

3. FACILITATE EMPLOYEE INTEREST IN AND COMMITMENT TO THE PROGRAM, encouraging involvement at each stage.

   ♦ Develop Personal Education Plans for each employee, with them, their Supervisor, the Instructors, and the Counselor to identify specific needs and learning objectives.

4. PROVIDE INDIVIDUALIZED INSTRUCTION, focusing on employees who have inadequate basic skills and based on personal judgement are:
   a) unable to perform their job effectively,
   b) ineligible for career advancement due to an identified lack of basic skills, or
   c) unable to retain employment due to Schneider's increasing technology and the demands this places on medical manufacturing employees.

   ♦ Provide functional contextual training opportunities which facilitate skill improvement to minimum competency level.

5. MEASURE AND EVALUATE PROGRAM, identifying outcomes and benefits to Schneider and the employees served.

   ♦ Establish a pilot for each learning module, working with Management to affirm validity and confirm desired outcomes are achieved.

WORKFORCE SKILLS ENHANCEMENT CONCENTRATION OPTIONS & GOALS
Continued

B. Current Workforce Competency for Future Job Responsibilities

The 2nd Priority

- Identify skills which will be fundamental basic skills for the future.
- Provide functional contextual training opportunities to initiate skill development.

C. Current Applicants Competency for Job Responsibility

The 3rd Priority

- Implement a valid means of screening applicants for the basic skills competencies Schneider requires for successful performance prior to re-initiation of hiring.
- Plan training (when feasible) to develop minimum competency for applicant/employees where deficient critical skills can be attained within initial training.

D. Future Workforce Competency

The 4th Priority

- Develop a partnership between Schneider, community agencies, and community educational providers who have the goal of improving the community's available workforce skills, working together to maximize the yields of the partners' efforts.

Skills Enhancement Program Evaluation Plan

This evaluation plan has been commissioned by Schneider, Inc., and Robbinsdale Area Schools for the Skills Enhancement Program.

Evaluation purposes:
The evaluation has two major purposes. The formative component is to give the project staff ongoing feedback regarding the strengths and weaknesses of project activities so that strengths can be built upon and weaknesses addressed. The summative component is designed to determine the outcomes of the project.

Evaluation Audiences:
The evaluation audiences for this evaluation are as follows:

Formative Evaluation	Summative Evaluation
♦ Project Staff	♦ U.S. Department of Education
♦ Project Advisory Committee	♦ Schneider Management
	♦ Project Staff
	♦ Project Advisory Committee

Evaluation Questions:

- Formative Evaluation Questions:
  - What are the strengths of the project?
  - What aspects of the project are working?
  - What are the weaknesses of the project?
  - Where is improvement or change needed?
  - What factors are promoting or limiting success?
  - What can project staff do to address areas of concern and weaknesses?
  - What can project staff do to build on strengths?

- Summative Evaluation Questions:
  - Did participants improve their literacy skills? If yes, in what ways? Were the changes in skills significantly different from control groups?
  - Were participants satisfied with the instruction received? What benefit do participants believe came from participating in the Program? What benefit do participants believe the company gained from the Program?
  - What were the outcomes from the Program in the areas of:
    - Educational reimbursement policy benefits?
    - Changes in attendance/sick leave?
    - Promotions for "locked in" employees (Merit increases; skill points)?
    - Employee retention?
    - On job injuries?
    - Product scrap?
    - Product cost (Labor efficiency)?
    - Problem solving skills?
    - Productivity (earned versus Actual Hours)?

Evaluation Report
Regarding: Basic Skills Enhancement Program
Start-up Phase

OUTCOMES FROM PROGRAM START-UP:

- Students from the ESL, one-on-one tutoring, and low-level math classes could identify a number of ways their classes helped them on the job.

  "It helps us a lot, we learn how to listen to people talk, help us with our converation, helps us understand the processes at work."

  "Before I could not understand what people say, now I really understand."

  "I now know how to follow process, to do my job."

  "I know how to ask for information if I don't know what they said."

  "My comprehension is better."

  "My speaking is better."

  "I can write better."

  "This class helps Schneider because if we are good at communication we understand each other better and can improve the product."

  "Often we see a problem but we can't tell anyone what the problem is. We don't have the language to explain the problem."

  "I can read process sheets better."

  "The class helped me improve my English. It help me understand more of my work."

  "It makes us proud to speak English."

  "We are not shy to speak up."

  "We better listen how other people talk and now understand what they are saying."

  "It helped us. There were times when working with the engineers that we did not know what they wanted. The teachers broke it down for us, for example how to use the eye piece."

- It appears that one student has received a promotion because of the program.

For Schneider:

- The project is learning much that has the potential to impact Schneider at a variety of levels.
- Teachers and students have begun to identify a number of factors that limit employees' success on the job. These have training and managerial implications.

FYI: FOR YOUR INFORMATION

- Employee Satisfaction: The students were very very appreciative of what Schneider was doing for them. "This is wonderful." "Tell Schneider Thank You." "You do not expect this from a company."

- Class Time: The students "like" that they can take classes during work. Some said they would not be able to take classes if they were not held during work. Child care issues were the factor that would inhibit many of the women from participating if the classes were held after or before work.

- Length of Time in the Program:
  - Instructors and students raised a number of issues regarding the amount of time a student can be in the program.
  - Students in the ESL classes, the low level math group, and one-on-one tutoring wanted to be able to continue in the program as long as they felt the need to improve their skills. They were concerned that "their" class would be discontinued because there were others who had been on waiting lists and who wanted to begin classes. They recommended that the teachers and individual students together decide when the student's skills were at a level to "graduate" from the program. They did not think length of the program should be decided on the basis of quarters, semesters, number of weeks, etc. They thought the length of time should be dependent upon when the student mastered needed skills.
  - The students in the high level math group wanted courses to be offered in advanced math areas. They generally wanted them to be short term and job related.

- Length of Time for Classes:
  - ESL students, low-level math group students, and one-on-one tutoring students wanted more class time.
  - The ESL students and low-level math students wanted 2 hours for each class session.
  - The one-on-one tutoring students wanted 1 and 1/2 hours for each session.
  - Many students said they wanted more time; however, they were concerned that the company could not afford to give them more time.

- Assessment:
  - The math students thought the assessment should not be called a test. They suggested that there be more items testing basic skills (addition, subtraction, etc.). There also was some concern regarding the way the assessment was done. Students with low-level skills reported (in private through one of their colleagues) that they wanted to take the test in private. "I felt really stupid. When we took the test, people were looking around and trying to see what others could and could not do. I felt really stupid because they were finishing all the questions and I could only get 2 or 3."
  - Based on the data collected, there also appears to be a need to continue to brainstorm and explore ways to creatively assess ESL speaking, listening, and comprehension skills.

- Groupings:
  - Teachers expressed concern regarding the grouping of students and wanted some feedback from students regarding this issue.
  - The focus groups with students revealed varying perspectives regarding student groups:
    Math Group:
    - Many of the math students said they were assigned to groups. They did not remember being able to chose their group.
    - The lower level math students did not like working with students with advanced skills: "The high group always made us feel bad." They wanted the math classes to be divided into low, middle, and high groups. The students with the lowest basic skills did not like having students in their classes who were "on the edge" between being in the low level group or the high level group. The low-level students did not want other employees to know that they had not mastered basic math skills.

ESL Groups:

- The high level ESL group believed that Darlene's group was at the same level.
- The low level ESL group reported (without being asked) that Irene's group had more advanced language skills.
- The two groups did not want to work together. Irene's group thought it took too much time to move to the other classroom and wasted valuable teaching time. Darlene's group did not like to work with the other group because it "is too loud", "is too confusing" and "has too many people." They also thought it was a waste of time and that it did not give them a chance to get the attention they needed/wanted from the teacher.

- Recruitment:
  - The students want to have the choice to attend classes. They do not want to be told they have to attend the basic skills program.
  - The math students said that for the math classes they were "told" they had to attend. One student said it was a "witch hunt" and many other students nodded in agreement.
  - They would suggest that "Pam" post a course description. They thought the posting should invite students to talk to Pam (in private) if they were interested in attending the classes.

- Waiting Lists:
  - Students said that other students wanted to know when it was their turn to take classes. They are saying," When us?" "When do we get to go to class?" "Why do some go to class twice and we can't go?" It appears there is a perception that the students in the program during the pilot phase and the Summer session are getting to go to "two" classes.

- Suggestions for Teachers:
  - ESL: Make sure and give everyone a opportunity to read out-loud. The students notice when they are missed.
  - Students really liked the use of the newspaper for in-class reading and study. They said it helped them learn what was going on and to learn new vocabulary.
  - Books: There was a mixed reaction to the ESL book. It appears that the low-level students really like the book. Most of the upper level ESL students thought the book was too simple and did not give them enough new vocabulary.

- Schneider Expectations:
  - It appears that some Group Leaders/Supervisors may have unrealistic expectations regarding student outcomes. The project needs to determine a way to help them realign their expectations.

- Clerical Assistance: The lack of clerical assistance results in instructional staff putting time into clerical tasks instead of program design tasks.

- Classrooms: Not having a designated room for the math classes results in time spent in searching out meeting space instead of in instructional/developmental activities.

- One-on-one Tutoring:
  - Everyone of the students receiving one-on-one tutoring was asked by other employees " Why are you so special?" "Why do you get to work with one teacher alone?"
  - It appears that after an explanation the issue was resolved.

- Schneider Company Employee attitude regarding ESL:
  - The interviews reveal that there is an undercurrent of resentment regarding employees who speak English as a second language. The program design may reinforce that attitude.
    "The only Schneider employees who need these classes are those with visas."
  - The data collected suggests that Schneider management and some employees cannot understand why basic math skills are needed. It appears that is changing to some degree but some of the students said, "We don't need this class because we use calculators."

Factors That Promote Success:

- The team is dedicated and in most cases are able to problem solve about programmatic issues.
- The counselor and teachers are from Robbinsdale and are not Schneider employees. This has lead to employees opening up about their issues and concerns.
- Schneider appears to be committed to the project.

Factors That Limit Success:

- The fact that staff contracts cannot be finalized until the state ABE funds are available is problematic. Also, it appears that there are constraints regarding off-site contracts which make it difficult for staff to chose to stay at Schneider when their position at Robbinsdale may be affected.
- It takes time to become aware of the Schneider operation.
- Ways should be found to streamline project staff meetings.
- Developing the curriculum and providing instruction at the same time is problematic. I would suggest the following process:

Step 1	Recruit students and involve the teachers in the assessment of student needs
Step 2	Involve teachers in the development of PEPs,
Step 3	Provide teachers with time to observe students on the job and meet with each student to identify their needs and interests,
Step 4	Provide instruction for an extended period of time (a semester); assess students' strengths/needs and plan for the next cycle.

Suggestions for Schneider:

- Suggestions for Group Leaders/Supervisors/The President/Teachers
  - Training is needed in working with ESL employees.
  - Trainers need training in education principles.
  - Big groups are not the way to communicate information or to obtain feedback for ESL employees.
    "I don't understand in the big meetings, small groups, ok--10 people--but when the president talked I did not understand. Plus he used big words."

TASK ANALYSIS PROJECT STRUCTURE

The Schneider Employee Development department and the Robbinsdale Adult Academic Program are working in partnership to develop a Skills Enhancement program at Schneider. A job task analysis was one step in the curriculum development process. Observations of employees on the job were helpful in identifying skills needed to function effectively on the job.

The information gathering process had several stages:

- First, competent employees were observed in the following positions:
    - Weld 5/6 french
    - Mold introducers
    - Polish guiding tips
    - Feedthrough grind guidings
    - Prep grinding hub end
    - Distal Bond Balloon
    - Bond hub and stylet
    - Label (final packaging)

  During the observations notes were taken about the functions the employees must use to do their job.

- Second, competent employees were interviewed off line.

- Third, supervisors were interviewed.

- Fourth, the information gathered was compiled.

- Fifth, objectives (learner outcomes) were developed from the task analysis results to use in the development of curriculum and training materials.

SKILLS ENHANCEMENT
ESL
SUMMER PROGRAM
June 10, 1991 - August 8, 1991
Irene Kaplan - Darlene Hetland, Instructors

- Two class sections were offered for each the first and second shift. Students were grouped according to performance on the STEL, interviews with the counselor, and teacher evaluation.

- Classes were held on Mondays and Wednesdays. First shift classes met from 1:45 to 3:15. Second shift classes met from 3:45 to 5:15. There were sixteen 1.5 hour classes with a total of 24 hours of instructional time per class section.

- Forty-two employees were served in the classes and were evenly divided into the four class groups. Attendance percentages were:

  Training Room A, First Shift - 93%
  (Two students did not complete the entire class because of birth of children.)
  Training Room A, Second Shift - 96%
  Training Room B, First Shift - 96%
  Training Room B, Second Shift -94%
  (One student did not complete the class because of an extended vacation.)

  Reasons for absence included vacation days, death in family, the necessity to attend JIT Training classes, and illness.

- The teachers, Irene Kaplan and Darlene Hetland, worked as a team to develop work-related curriculum for the classes. Time was spent observing production activities, communicating with group leaders and supervisors, and team building with the development counselor, math teachers and Schneider training specialists. Irene Kaplan was employed on site 19 hours per week for eight weeks. Darlene Hetland was employed 15.5 hours per week for eight weeks. (Irene Kaplan's additional hours were designed for long-range planning with the development counselor, Martha Homme.)

The established goal was to use work-related, job-specific materials for the teaching tools. Schneider personnel were extremely cooperative in giving the teachers access to documents used in the production of the product as well as forms for medical benefits, etc. A listening/speaking textbook, Sound Advice, A Basis for Listening, Stacy A Hagen, Prentice Hall Regents, was purchased for each student. All other materials were developed by the teachers specifically for Schneider employees to practice the four elements of language skill development: listening, speaking, reading, and writing.

- LISTENING

  linked and reduced sounds in English
  emphasized difference between spoken and written language

- SPEAKING

  pronunciation of vocabulary from process sheets
  polite openers for conversation
  stating a problem on the job
  asking questions
  asking for assistance
  verification of understanding
  problem solving
  formulating "I messages" to be used with co-workers and supervisors
  generating and practicing dialogues from actual job situations

- READING

  approach and method for reading process sheets
    - skimming
    - envisioning task
    - looking for cautions - what could go wrong
    - reading carefully for exact information
    - reading figures, diagrams, tables, etc.
    - paying attention to product quality - verifying

  drawing inferences
  thinking logically
  looking for sequence
  vocabulary development

- WRITING

  work sheets with matching, multiple choice, short answer
  documenting appropriate information
    - tags
    - parts cleaning labels
    - benefits forms

  writing to a target audience expressing perceived outcomes of the classes and future needs.

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Pfizer

SCHNEIDER

PRESS RELEASE

For Immediate Release
April 30, 1991

Contact:
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Vice President, Personnel
Schneider (USA) Inc
(612) 550-5500

SCHNEIDER AWARDED WORKPLACE LITERACY GRANT

MINNEAPOLIS, MN -- Schneider (USA) Inc has been awarded a grant by the United States Department of Education. This award, under the National Workplace Literacy Program, provides $113,760 over 18 months to develop a program to enhance the basic skill level of Schneider employees. In partnership with The Adult Academic Program Robbinsdale Area Schools (ISD 281), Schneider will use the award to establish a model workplace literacy program for the medical device industry.

Schneider has found that deficiencies of such skills as reading, writing and speaking have limited both job retention and career advancement of some of its employees. This finding is consistent with highly publicized national reports that one in five adults in America are functionally illiterate. The Minnesota Adult Literacy Campaign has estimated that 671,000 adults in Minnesota lack basic skills.

"Our community has programs to help people improve their skills", states Pamela Streiff, Schneider Employee Development Specialist and Project Director. "But, they cannot provide the job-related content required for success in our technical industry. Child care and transportation schedules also limit the access of our employees to off-site programs."

The Schneider program will utilize workplace materials and a "job functional" method of instruction. On-site classes will be held during normal work schedules. Schneider will also provide support to participants through peer tutoring.

Schneider (USA) Inc is a subsidiary of Pfizer Inc, a diversified, research-based health care company with businesses in pharmaceuticals, hospital products, consumer products, animal health, specialty chemicals and minerals. Pfizer reported sales of more than $6.4 billion for 1990.

QUESTIONS FOR EXTERNAL CATHETER CLEAN PROCESS 820019-002

July 8, 1991

1. If there are any damaged catheters, who should you contact?

2. What could you say?

3. Why should you use a "lint free cloth" to clean the handling tray?

4. Why must you check the log sheets for the equipment?

5. What is the largest number of catheters that you can clean at one time?

6. Look at NOTE: in procedure 6.
   If the flow meter is 3.5 what do you do?

7. Look at Figure 2-OHM READ OUT--
   If the OHM readout is 1.30, what do you do?

   Can you clean the parts if the OHM readout is 1.30?

8. Look at NOTE: in procedure 10.
   Isopropyl alcohol must be changed every ________bundles.

   What does it mean "to keep a tally"?

9. How can tips be kept from dragging in sump?

10. How do you blow out the interior of the catheter?

    How do you dry the exterior?

11. What are the maximum numbers of guiding catheters in each tray?

12. What will you do with each tray of cleaned catheters?

13. Fill out the parts cleaning tag below.

Fill out the Parts Cleaning label

PART NO. ____________________
LOT NO. ____________________
QUANTITY ____________________
CLEANED PER
PROCESS NO. ____________________
EMPLOYEE NO. ________ DATE ________
710095-001

PART NO. ____________________
LOT NO. ____________________
QUANTITY ____________________
CLEANED PER
PROCESS NO. ____________________
EMPLOYEE NO. ________ DATE ________
710095-001

MATCH THE SITUATION WITH WHAT YOU MIGHT SAY TO YOUR CO-WORKER OR SUPERVISOR.

___ 1. You don't have enough materials.

___ 2. You don't have the right number of parts.

___ 3. You do the job wrong.

___ 4. You don't know where to locate the information needed on the TCF.

___ 5. You don't know where something is.

___ 6. Your machine isn't working right.

___ 7. You have been given several directions, but you don't understand all of them.

___ 8. You are reading the process sheet and don't understand all of the words.

___ 9. You don't know what to do or how to do it.

___ 10. You can't remember what to do.

A. I made a mistake.

B. Something's wrong with my machine.

C. I need some directions.

D. I can't find the __.

E. I ran out of supplies.

F. I'm not sure what to write down here.

G. My count didn't come out right.

H. There are a few things I need to ask about.

I. I forgot what I'm supposed to do.

J. Some of these words are new to me.

WHAT YOU MIGHT SAY IF . . .

YOU DON'T HAVE ENOUGH MATERIALS

I'm out of_____.
I ran out of _____.
I'm running out of _____.
I've run out of _____.
My supplies are running out.
I need more ______.
I need some more _____.
My number isn't right.
I'm short _____.
I'm (almost) out of _____.

YOU DON'T HAVE THE RIGHT NUMBER OF PARTS

My count didn't come out right.
My count isn't right.
I have to count again.
I have to double count.
Can you check this count?
I'm short parts
The number's not matching.
It's not the right quantity.
The quantity's not right with the TCF.
The quantity doesn't match the TCF.
The number doesn't agree with the TCF.

YOU DO THE JOB WRONG

I'm sorry, I made a mistake.
I did this (it) wrong.
I didn't do this (it) right.
Someone made a mistake.

YOU DON'T KNOW WHERE TO LOCATE INFORMATION NEEDED ON THE TCF.

I need some help.
I can't find this information.
I'm not sure what to write down here.
This doesn't make sense.
The thing I fill out isn't right.
This doesn't match with the TCF.
Can you check this and see if it's right?

2

WHAT YOU MIGHT SAY IF . . .

YOU DON'T KNOW WHERE SOMETHING IS

I can't find _____.
I don't know where _____ is.
Do you know where _____ is?
Can you (please) help me find the _____?
Will you (please) help me find the _____?
Where is (are) the _____?
Can you see the _____?
Have you seen the _____?

YOUR MACHINE ISN'T WORKING RIGHT

Something's wrong with my machine.
Can you take a look at my machine?
Can you check my machine?
Can you fix my machine?
What should we do about this?
Do you have a minute? I need help to look at this machine.
(I think) We need to call set-up.
My machine is down. Please call set-up.
I would like you to check the product. I think there's something wrong with my machine.
Can you check the product? I thing there's something wrong with my machine.
Please come check the machine.

YOU HAVE BEEN GIVEN SEVERAL DIRECTIONS, BUT YOU DON'T UNDERSTAND ALL OF THEM

There are a few things I need to ask about.
I'd like to ask you about some things.
I'd like to ask you some things about _____.
I need some more directions.
Can you explain that to me again?
I'm not sure about all the directions. I want to do it right.
It wasn't all clear to me.
I don't understand everything. Can you speak slowly for me?
Would you please tell me how to (what to) do _____?

WHAT YOU MIGHT SAY IF . . .

YOU ARE READING THE PROCESS SHEET AND DON'T UNDERSTAND ALL OF THE WORDS

Some of these words are new to me.
Can you explain this to me?
I need some help with this word.
Can you tell me what this means?
I don't understand this part (word).

YOU DON'T KNOW WHAT TO DO OR HOW TO DO IT

I need some directions.
I need some ideas.
I don't know where to start.
I'm not sure what to do.
What should I be doing?
What am I supposed to do?

YOU CAN'T REMEMBER WHAT TO DO

I forgot what I'm supposed to do.
Can you show (tell) me again?

MATH AT WORK TEAM
Closure Report
June 10, 1991 - August 9, 1991
Rose Lawson and Nancy Palmer
Math Instructors

SUMMARY OF ACTIVITIES:

- Orientation with Pam Streiff (tour, Microsoft)
- Meetings/discussions with managers and supervisors to identify Math at Work Team participants and needs assessment
- Observations of participants at work in clean room and guiding factory
- Development of employee questionnaire, outline for introductory class, math pre-assessment
- Introductory class: brainstorming session on math used on the job, questionnaire, pre-assessment
- Organization of class groups and curriculum based on needs assessments and in-put from participants and supervisors
- Classes: Monday 2:00 - 3:30 PM/ 2 groups/ 9 employees
  Wednesday 2:00 - 3:30 PM/ 2 groups/ 8 employees
  Total instructional hours per class - 10.5 hours
  Class attendance: 84.4%
- Curriculum development: continued information gathering from process sheets and input from supervisors, engineers, group leaders, and employees
- Questionnaire to all supervisors and group leaders on math applications on the job
- Development of lesson plans, worksheets, and post-assessment
- Re-evaluation (on-going) of needs, lessons, etc.
- Time allotment for math team teachers: Staff meetings - 21 hours; Instructional hours - 21 hours; Related activities (see Summary of Activities) - 88 hours.

FINDINGS/RECOMMENDATIONS:

- Process Sheets: Many of the process sheets are not written at a level compatible to the skills of the production worker. If the process sheets are to be used by production workers, not only engineers, then these sheets should be written with clearer language and more common vocabulary (math terminology included).

- Skill Level: Supervisors, engineers, and group leaders sometimes assume all workers have a certain competency level in mathematics - this assumption can be erroneous.

- Math Thinking Skills: a calculator cannot do all math skills. Certain thinking skills in math sometimes have to be taught; such as estimating, rounding, comparing decimals, and problem solving.

- Pre-assessment results: random group of 17 employees, not identified as needing math skills refresher.
  Scores ranged from 4 - 88%. Mean score = 54.5%

- Post-assessment results: instructional time for entire course was 10.5 hours or less; individual skill level varied considerably.
  Scores

- Calculators: should be more accessible in the factory or included in employees supply box. If used, calculators would reduce math errors on the TCF and other forms.

- Eye-piece: design a new template for the eye-piece eliminating all unnecessary lines and measurements. Results from brainstorming, questionnaires, and discussions indicated this was a confusing tool and often misused.

- Resource library and drop in center for math help: available not only to those employees enrolled in a math class, but for any worker having difficulty with a math skill used on the job or questions from SPC training.

- Pre-SPC Math refresher: about 25% of the random math team were very uncomfortable with their math abilities and would benefit from a math refresher before they participate in SPC training - this should be an option for all employees.

- SPC Manual: not written at a level appropriate for all employees - vocabulary too difficult and some math formulas are not consistent throughout the manual. (Some specific recommendations on the SPC manual available on request.)

LANGUAGE ARTS

INSTRUMENT	SKILLS
Interview	♦ **SPEAKING** - pronunciation - grammar - sentence structure - confidence
Oral Directions (2) ♦ TCF ♦ MP	♦ **LISTENING/PROBLEM SOLVING** - interpreting and following oral directions - asking questions - checking processes - tracing cause of problems
Manufacuring Process Sheet	♦ **READING** - decoding - vocabulary - comprehension - interpreting and following written sequential directions - skimming and scanning for specific information - problem solving
Discrimination Exercise	♦ **VISUAL ACTIVITY** - identifying similarities and differences
TCF	♦ **WRITING** - interpreting and following written sequential directions - locating information on a chart - identifying details, labels, number or parts of a key or legend - interpreting codes or symbols - organizing, transferring and documenting information in correct place

Pam FYI Nor

Q and A/Education of the American worker

U.S. lagging behind in job training

Workplace training and formal education practices in the United States are radically different from those in other industrialized countries. Critics say the U.S. system wastes human resources and leaves U.S. business woefully ill-prepared to compete in a global marketplace. Former Tennessee Sen. William Brock, who serves as cochairman of the Commission on the Skills of the American Workforce and is a member of President Bush's Education Policy Advisory Committee, says parents, educators, business executives and politicians share the blame. In a speech in Minneapolis last week sponsored by Deloitte & Touche accountants, Brock proposed some changes.

By John J. Oslund
Staff Writer

Q

For years now, we have heard about the global economy and U.S. competitiveness, or lack of competitiveness. Have we not yet gotten the message?

A

The United States is astonishingly slow to recognize that it's in a globally competitive economy. The fact is that people, not just in Japan or Europe but in Bangladesh or Brazil, can buy the same equipment as that used by a U.S. manufacturer.

We have got to think about how we compete with them. ... We sure don't want to compete with them on the basis of wages. That's an insane kind of competition. But that's pretty much the way we have been competing for the past 20 years.

Q

Let's start with the way we work, which you say is crucial to improving U.S. competitiveness. Where are we, and where do you think we should be headed?

A

Today, fully 95 percent of U.S. business is still organized on the old Taylor system of simplifying tasks down to discrete hand-eye motions, which can be repeated throughout the day. ... Henry Ford is alive and well. Now, nobody is saying we are going to do away with mass production, but the fact is that companies that are successful are having to be much faster on their feet and much more creative ... That means you have to have a much more flexible and responsive and creative workplace.

William Brock

A high-performance workplace is one in which you don't have eighth-grade-educated workers doing rote tasks with a lot of supervision, a lot of quality control inspectors and a lot of management sitting on top of them making decisions. In the high-performance workplace of the Motorolas and the Xeroxes and the Cornings of the world, you have teams of workers that make decisions, that use their judgment. Business has to look at the way it organizes work.

Q

Your commission has studied education and job training practices in Sweden, Germany, Ireland, Singapore, Japan and South Korea. How does this country compare on job training?

A

The companies in those countries all were doing a substantially better job of training in every category. ... The expenditure on training was running at 3 to 5 percent of payroll. In the United States, the figure is way under 1 percent.

Today 95 percent of the training that's done in the U.S. workplace is done by 15,000 firms. Now there are 12 million businesses in the United States, which means that most are doing nothing. But even at the good ones, two-thirds of that training money is spent on supervisory levels and up ... just one-third on frontline workers, and most of that is just orientation. So we really are not doing what's being done in the rest of the world.

Q

Can you give us an example?

A

I went to a Japanese plant here in the United States, the Toyota plant at Georgetown, Ky., and 10 percent of their payroll is in training. The workers only significant complaint in that plant was that they weren't being trained *enough*. They learn things that they never dreamed of, such as product design, how to improve the workplace, how to work together, how to listen.

The way these high-performance workplaces are being managed is fundamentally and radically different. ... You are trying to make people worth more — not work more but *worth more*.

Q

Lawyers, accountants, brokers and other professionals typically do their work with minimal supervision. You would call those high-performance workplaces. But what you are talking about now is forcing all management to acknowledge that any work force can be as creative as a professional group of workers and that they must be in order to compete, right?

A

Sure. And manufacturing is moving faster in this regard than many people have expected. It has had to in order to survive. But the service sector is way behind. How many times have you gone into a bank and walked up to a teller who is also a loan officer? There is no reason why the bank teller today could not be educated to perform that task. Why do we separate them out?

Q

How about the schools? Where are we, and where do you think we should be headed?

A

I think the U.S. educational system is flying in the face of everything this country stands for. For 200 years, we have believed that every single child, rich or poor, black or white, male or female, deserves an opportunity through education. And all of a sudden we have abandoned that, not with our words but with our actions.

In effect, we are telling the kids of the United States today, "If you don't go to college, you are less than somebody else." And we are not preparing them for work. ... Seventy percent of them won't graduate from college, and 50 percent won't get any postsecondary education. What do we do about them? Nothing, absolutely nothing. The rest of the world doesn't do that.

Q

You have probably heard this refrain: "I know U.S. education is in trouble, but my school is OK." How do you respond?

A

Baloney. Studies show that Seoul, South Korea, does the best job in the world of educating its kids in math. And Chicago does an absolutely stinking job. A survey asked the parents in Seoul, "Are you convinced that your children are getting a world-class education in math." Only 23 percent said yes. The same question was asked in Chicago, and 76 percent said yes. This is the problem.

We teach students to add up a column of numbers, but we never tell them that they are going to have to use that skill. We don't teach them in the context of work. So half of our kids leave high school, totally unprepared for the world of work. And most of them spend the next seven or eight years floating around from odd job to odd job, never learning anything until, with luck, they settle into something that they stay with. Well that's a terrible waste. And part of that is because business has not told the educators what it wants from the schools.

Q

What is your solution?

A

What if we got business and labor together with educators and looked carefully at what other countries do to prepare their kids? And then we commit to get our kids to a global standard by age 16? With a certificate of mastery, young people should know this much: how to read, write, count, listen and talk at a global standard. They should be able to manage time and have self discipline.

Then you say: If you get there, then we are going to give you four more years of education or training. If you want to apprentice, fine. Here is the apprentice path. Or you can do a work-study program, or you can stay in high school for another couple of years and then go to a community college. Or you can go strictly on an academic track and go to college — whatever you qualify for.

BEST COPY AVAILABLE

EVALUATION REPORT
Regarding:
Skills Enhancement Program
Grant Award #: V198A10119

By:
EnSearch, Inc.
Stacey Hueftle Stockdill, Ph.D., President
Marlene Stoehr, M.A., Associate

December 1992

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EXECUTIVE SUMMARY

In 1991, the National Workplace Literacy Program awarded Schneider (USA), Inc. a $113,760 grant to implement the Skills Enhancement Program. The program goals were to: 1) develop a workplace literacy program by creating a partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, 2) conduct a literacy audit to determine what skills were needed by Schneider's employees, 3) recruit employees, 4) provide them with literacy instruction, and 5) evaluate the program to identify benefits realized for employees, Schneider, and Robbinsdale.

EnSearch, Inc., under contract with Schneider to provide an external evaluation of the program, was to determine the extent to which the grant was implemented as proposed, determine if participants improved their literacy skills, determine if participants were satisfied with the instruction received, and identify outcomes from the program. Data were collected through review of program documents, class evaluations, student questionnaires, and pre/post test data; focus group and individual interviews with program staff; and focus group interviews with employees who participated in training, supervisors, and group leaders.

Evaluation of the Skills Enhancement Program

EnSearch wishes to point out the significant organizational changes that occurred during the life of the Skills Enhancement Program. These changes had a major impact on the extent to which program objectives were met and prompted revisions in the literacy instruction provided. During the Fall of 1991 and Spring of 1992, Schneider underwent a major "right-sizing" effort. Through this program, employees were offered financial and educational incentives to leave the company. This cut the production workforce in half; limited cuts were made in management and staff positions. The Skills Enhancement Program had to reassess company needs and learned that some of the original plans no longer matched. The effect of the "right-sizing" is described for each of the appropriate goals and objectives and as one of the factors that limited program success.

Evaluation data were collected from a number of sources. The extent to which the Skills Enhancement Program goals and objectives were successfully met is summarized as follows:

Goal 1: Organize a model workplace literacy program. EnSearch can verify that a workplace literacy program was developed and that individual objectives were met. Specifically a contract between Schneider (USA) and the Adult Academic Program of the Robbinsdale Area Schools was established, a program director and program administrator were confirmed, teaching staff from the Robbinsdale Adult Academic Program developed workplace literacy materials and taught classes, a counselor position was created, information regarding the grant was shared within Schneider, recruitment and intake processes were developed, a contract was awarded to EnSearch to evaluate the program, and approaches were taken to share program learnings.

Goal 2: Conduct a literacy audit and develop a literacy assessment. The literacy audit was conducted using the process specified in the grant. A literacy assessment, developed using information collected through the literacy audit, was administered to 39 employees.

Goal 3: Facilitate employee interest and involvement in program. A number of approaches were used to distribute information regarding the Skills Enhancement Program. There is evidence that the information regarding ESL class offerings was known among the ESL population and that employees throughout the organization were aware of the Traceability Control Form (TCF) and International Standards Organization Audit trainings; however, it appears that more information regarding other program features needed to be provided.

Another component of the program was to "implement education/vocational counseling to program volunteers." Program records indicate that 15 employees received special assistance from the Skills Enhancement Counselor regarding advanced study of plastics, becoming a machinist, becoming a nurse, and ESL and basic skills classes at Robbinsdale. The information regarding benefits from this service is limited.

The original proposal envisioned that 100 employees would be identified, participate in the literacy assessment, and then participate in training based on needs identified. The Personal Education Plan (PEP) was to be a way to help these individual employees identify goals and to help the teachers develop appropriate instruction. The use of the PEPs for employees receiving assistance in English as a Second Language (ESL) was in keeping with the original proposal; program records indicate that 43 employees had PEPs. However, after the company's "right-sizing" the use of the PEPs became more limited because the instruction become more short-term, need-specific, and designed around issues for large numbers of people. In that regard, the PEP process was not as relevant as first envisioned and the instruction did not evolve out of the PEP.

Goal 4: Provide skills enhancement instruction. During the early months of the program, many objectives under goal four were realized; however, a number had to be redefined when the company "right-sized."

- It was anticipated that from 75 to 100 employees would participate in the Skills Enhancement Program for an extended period of time. Records indicate that the program exceeded its participation numbers; however, participants became involved in need-specific short-term training rather than the longer course offerings originally envisioned.
- One of the key components of the program was to be the development of curriculum materials structured to reflect the needs of the workplace. There is evidence that the materials developed for each course and training were job-related.
- The other goal four objectives were generally met in that the courses used adult learning principles, in the early stages of the program participants in the ESL and math classes were grouped to accommodate skill levels, and although the later course offerings were not based on the PEPs per se they were based on identified corporate training needs and needs identified through the work of the Skills Enhancement Program teachers.

Goal 5: Evaluate program for benefits. An assessment of each objective indicates that most were met: the program staff made provision to obtain feedback from the participants in all classes and wrote an evaluation summary for each class offered; EnSearch conducted nine focus group interviews and eight individual interviews; data was analyzed throughout the program; feedback from other literacy providers and businesses was obtained. Control group comparisons were not undertaken because the training focus shifted and all Schneider employees participated in at least one course offering. Appropriate group statistics and job performance data were analyzed and are presented in the EnSearch report; however, not all data categories identified in the original proposal were analyzed because effects of "right-sizing" became a major source of error and would have masked changes that could be attributed to the Skills Enhancement Program.

Benefits from the Course Offerings

English as a Second Language (ESL). Three efforts were directed toward the literacy skills of employees who spoke English as a second language. Qualitative and quantitative data indicate that the Skills Enhancement Program helped the adults who lacked basic skills obtain needed work-related literacy skills. Concern was expressed, however, that the company did not fully appreciate the extent of the literacy problem for the ESL population or the need to help ESL employees develop their English literacy skills. It isn't clear to what degree the company will or can make a commitment to its ESL employees in the future.

Math Instruction. Three curriculum development efforts were undertaken to identify needed work-related math skills and to develop materials to address math-related literacy needs. The data indicate that the Math at Work course offering increased employees' math skills. The pilot test of another course, Eyepiece Training, indicate that the training has potential to significantly increase the company's productivity. In this case, employees visually inspect a product using an eyepiece, figure area, and categorize the product as "scrap," "acceptable," or "rework". Results of one course activity indicate that the training will increase the company's productivity by reducing the number of products scrapped because of literacy errors and/or errors in judgement.

The math instruction seems to be one of the least successful components of the training program. The program was successful in that materials were developed but their use beyond the pilot stage has yet to be achieved. The right-sizing of the company played a role and the necessity to balance Schneider's and Robbinsdale's organizational needs and commitments made it difficult to respond when the need for training was first recognized.

Traceability Control Form (TCF) Training. The TCF is used by Schneider employees to document production work and provide records of each product. The form is critical because documentation errors could force a company shutdown. When TCF error was identified in December of 1991 as the most critical training issue for Schneider, the Skills Enhancement Program staff began to work with Schneider's supervisors, group leaders, quality assurance personnel, and other employees to determine why errors were occurring and develop a training. In total, 230 employees received instruction for 720 instructional hours. This was the most successful training provided and had the most direct and significant impact on the company. Outcome data indicate that there was a 48% reduction in the number of errors made on the TCF sample form and that the number of TCF violations on the production line went from over 55 violations before the training to less than 5 after the training was provided. There were 16 employees who participated in the TCF training who took the TCF section of the literacy assessment. The pre/post assessment data indicate the employees' skills improved and it also suggests that additional work is needed in this area.

International Standards Organization Audit Training (ISO Training). The ISO Training was undertaken to help Schneider become certified for selling its products in the European community. It is anticipated that this stamp of verification will become a national and domestic standard of quality which may influence Schneider's ability to sell products on both world and domestic markets. The Skills Enhancement Program staff worked with the ISO Steering Committee to help improve employees' oral communication skills so they could respond successfully to questions asked during the ISO audit. A total of 200 employees participated in this training. Class time was one hour, but this does not reflect the continuation of the training through study and drill with supplemental materials. Participants gave the training high marks in the areas of instructors' facilitation, activities and exercises, course materials, and pace of the class. At the time of this evaluation report, the auditor had made a pre-audit site visit. There is some evidence to suggest that the training helped Schneider receive a favorable pre-audit assessment.

Cultural Diversity Training. The cultural diversity unit evolved because of a pre-existing need that was highlighted by the early ESL classes. The pilot class was devoted to raising employees' awareness that diversity is an issue in the workplace and how it impacts them and to teach the employees intercultural communication skills. The data indicate that participants learned communication skills. As a result of the pilot class, participants encouraged the training department to offer this class for all Schneider and American Medical Systems (AMS), a sister company, employees. Schneider has made diversity training an employee development course for 1993 and AMS company made diversity their key employee training issue for 1993.

Outcomes for Schneider

The Skills Enhancement Program benefited Schneider.

The company:

- **Is better able to assess skills.** The company became better able to identify the degree to which an employee may need training in work-related literacy skills.
- **Is more inclined to examine root causes of inefficiency.** The company is beginning to examine the literacy problem by looking within the company processes, policies, procedures, written communication, and training to determine how they influence the ability of employees who lack basic skills, as well as all employees, to do their job effectively.
- **Has improved company training.** The assistance of Robbinsdale's Adult Academic Program teachers helped the company improve training. Schneider trainers and content experts responsible for training reported that they learned new delivery techniques and gained confidence in using them.
- **Is identifying needed skills and clarifying company policies.** The approach taken to develop Skills Enhancement Program courses led to company policies being clarified and critical skills being identified.
- **Has an improved attitude toward the training department.** It appears the Skills Enhancement Program played a role in improving the way the training department is viewed and the way training is operationalized within the company.
- **Has employees who are comfortable in asking questions.** One of the outcomes identified by company personnel and Robbinsdale teachers is that more trust and comfort in asking questions began to emerge as a result of the training and the modeling of questioning strategies in those trainings.
- **Had a place for employees to up-grade their skills.** The Skills Enhancement Program became a place where employees who wanted to improve their skills could go or where concerned supervisors and group leaders could send employees who lacked needed skills. It gave the company options other than disciplinary action and termination for an employee who was not able to carry out work assignments.

Outcomes for the Adult Academic Program of the Robbinsdale Area Schools

Outcomes for the Adult Academic Program of the Robbinsdale Area Schools, as identified by the Robbinsdale staff and Schneider employees, included that teachers gained a broadened perspective and know more about workplace literacy issues and needs and how to organize instruction for business.

Definition of Workplace Literacy

Over time the program changed its focus from a traditional basic skills or ESL approach to one that was job-specific job-related. The TCF, ISO, and cultural diversity trainings generated considerable disagreement whether they were within the original intent of the grant. One perspective was that they helped employees with their communication skills, making sure they were clearly understood in both written form and in interpersonal and small group settings. However, not everyone was comfortable with this perspective. Some believed there is a difference in definition between training and literacy and saw TCF, ISO, and cultural diversity as training designed to serve Schneider's needs and not workplace literacy.

The TCF, ISO, and cultural diversity trainings went beyond what was originally intended. It appears to the evaluator that the differences of opinion regarding whether these trainings were appropriate for the grant brings us to the heart of workplace literacy. In this project, the TCF training was one of the most significant activities undertaken. It helped the Schneider management understand literacy in specific and concrete terms. If the ability to communicate clearly in written and oral communications is a literacy skill, then the TCF, the ISO, and the cultural diversity trainings all fit under the broad literacy rubric. These also fit the definitions found in the more recent workplace literacy literature. And, the document provided to grantees by the grantor, Workplace Literacy: Reshaping the American Workforce, specified several types of training the grant could support. If given their broadest interpretation, then the TCF, ISO, and cultural diversity trainings appear to be worthy of support.

Factors that Limited and Facilitated Success

The key factors that limited success include:

- **Right-sizing.** The right-sizing at Schneider had a profound impact on the way the grant was implemented. It had major ramifications regarding the extent to which the original design of the program was relevant and forced the Skills Enhancement Program staff to redefine their direction so programming would fit with company needs.
- **The partnership.** The development of a partnership between Schneider and the Adult Academic Program of the Robbinsdale Area Schools was not smooth and at times made operation of the program difficult. One of the clear frustrations on the part of both organizations was the difficulty in trying to mesh Schneider's needs and obligations with Robbinsdale's needs and obligations.

Cooperation of the Skills Enhancement Program staff, the strategy of involving many within the company in goal setting and program implementation, and the quality Robbinsdale teaching staff were all identified as factors that promoted success of the program.

Continuing Issues

Although many aspects of this program were a success, employees remain who lack basic skills and who need a commitment by the organization to address those needs. In a recent analysis, it was estimated that 79 employees need reading training and 90 employees need math training. At the time of this report, discussions were being held to examine the costs and benefits of setting up a computer-assisted skills lab. If this lab is developed, there will be some assurance that the work in literacy begun through this grant will continue into the future. There is concern by some of the Skills Enhancement Program staff that the fact a decision has not been made may indicate a lack of willingness on the part of Schneider to move forward in this area.

Schneider and Robbinsdale are in the process of identifying future needs and beginning to examine future direction. The tensions experienced during the formation of the partnership continue. The evaluator of this project is concerned that these tensions may build and make it unlikely that the partnership will be able to continue in the future. I would recommend that Pam (Streiff) Altrowitz and Wendy Malinsky, as representatives of Schneider (USA), and Mary Negri, representing the Adult Academic Program of the Robbinsdale Area Schools come together to review this evaluation report, identify where the partnership benefits each organization,and problem-solve around remaining issues.

CONCLUSIONS

The Skills Enhancement Program was for the most part implemented as proposed and had a dramatic impact on the employees who participated, Schneider (USA), and to a more limited degree, the Robbinsdale staff.

To their credit, the Skills Enhancement Program staff was able to adapt to the company "right-sizing." That event alone had the potential to disband the program. The timing of this grant, coming during such dramatic change at the company, made it imperative that the Skills Enhancement Program be flexible and sensitive to the company's changing needs.

It is also to the staff's credit that they were willing to work through some difficult partnership issues. The tensions experienced are not unique to this project; they will be experienced by many as educational organizations and corporations work together to address educational and literacy issues. Having the partnership raise issues about the definition of literacy and about working together as partners is healthy for the field of workplace literacy. Change is seldom without tension; indeed, one way to track change is to look for places where tensions have emerged. Some tensions arose because the Skills Enhancement Program touched fundamental issues about workplace literacy.

INTRODUCTION

In 1991, the National Workplace Literacy Program awarded Schneider (USA), Inc. a $113,760 grant to implement the Skills Enhancement Program. The purpose was stated as follows:

> Through a business/education partnership, develop a workplace literacy skills enhancement program fostering improved employee job performance in the medical manufacturing industry. Coursework will include English as a Second Language, Workplace Communication Skills, and Workplace Math and Problem-solving.

Program goals were to:

1. Organize a model workplace literacy program through an exemplary partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, a Local Education Agency (LEA) for the State of Minnesota.
2. Conduct a literacy audit to determine what communication skills -- reading, writing, speaking and listening -- are needed by manufacturing employees at Schneider.
3. Facilitate employee interest and involvement in the program.
4. Provide individualized instruction to employees who have inadequate basic skills and, based on personal judgement, are: a) unable to perform their jobs effectively, b) ineligible for career advancement due to an identified lack of basic skills, or, c) unable to retain employment due to Schneider's increasing technology and the demands this places on medical manufacturing employees.
5. Evaluate program for benefits to the individuals served and to the organization.

EnSearch, Inc., under contract with Schneider to provide an external evaluation of the program, was to determine the extent to which the grant was implemented as proposed, determine if participants improved their literacy skills, determine if participants were satisfied with the instruction received, and identify outcomes from the program. Data were collected through review of program documents, class evaluations, student questionnaires, and pre/post test data; focus group and individual interviews with program staff; and focus group interviews with employees who participated in training, supervisors, and group leaders.

In presenting this evaluation report, EnSearch wishes to point out the significant organizational changes that occurred during the life of the Skills Enhancement Program. These changes had a major impact on the extent to which program objectives were realized and prompted revisions in the training provided. During Fall of 1991 and Spring of 1992, Schneider underwent a major "right-sizing" effort. Through this program, employees were offered financial and educational incentives to leave the company. This cut the production workforce in half and resulted in limited cuts in management and staff positions. The Skills Enhancement Program had to reassess company needs and learned that some of the original plans no longer matched. The effect of the "right-sizing" is described for each of the appropriate goals and objectives and as one of the factors that limited program success.

EVALUATION OF THE SKILLS ENHANCEMENT PROGRAM

GOAL 1: ORGANIZE A MODEL WORKPLACE LITERACY PROGRAM

The first program goal and objectives were stated as follows:

GOAL 1: Organize a model workplace literacy program through an exemplary partnership between Schneider (USA), a medical manufacturing firm, and the Adult Academic Program of the Robbinsdale Area Schools, a Local Education Agency (LEA) for the State of Minnesota.

OBJECTIVES:
1:1 Confirm program director.
1:2 Finalize contract with Robbinsdale Area Schools.
1:3 Confirm program administrator.
1:4 Select teaching staff.
1:5 Orient the teaching staff to proposed program.
1:6 Arrange instructional environment.
1:7 Develop a communication plan for creating employee involvement and ownership.
1:8 Establish the liaison role of the Teacher/Counselor; create quarterly supervisor reporting system.
1:9 Plan the recruitment and intake processes to ensure equal access without regard to color, gender, national origin, age, or handicapping condition.
1:10 Confirm the evaluation specialist.
1:11 Plan the program evaluation.
1:12 Develop a plan to share what has been learned during the program period.

EnSearch can verify that the individual objectives were met.

GOAL 2: CONDUCT A LITERACY AUDIT & DEVELOP A LITERACY ASSESSMENT

The second program goal and objectives proposed that the staff conduct a literacy audit and develop a literacy assessment. These goals and objectives were stated as follows:

GOAL 2: Conduct a literacy audit to determine what communication skills -- reading, writing, speaking and listening -- are needed by manufacturing employees at Schneider.

OBJECTIVES:
2:1 Finalize method to be used during observation.
2:2 Conduct observation of work in process with a stratified sample of competent production workers.
2:3 Collect samples of formal and informal communications.
2:4 Interview the observed employees and their supervisors.
2:5 Categorize the literacy skills identified in the audit as three levels of literacy skill development required for competent performance in Schneider positions.
2:6 Confirm the validity of the skills categorization.
2:7 Develop an assessment tool to evaluate individuals' mastery of Schneider workplace literacy skills.

The literacy audit was conducted using the process specified in the grant. Staff conducted a task analysis by observing employees on the job, interviewing employees and supervisors, compiling work-related materials, and identifying skills needed to function effectively. From this analysis a literacy assessment was developed to establish the initial proficiency level of employees. A total of 39 employees were given a pre-assessment (See Table 1).

TABLE 1
Literacy Assessment--Pre-Assessment Results

	Employees	Pre-assessment Scores	
		Range	Average
Language Arts Assessment:		(Percent Correct)	
• Speaking	18	skills too low to 86%	62%
• Listening	18	skills too low to 100%	28%
• Reading	18	18% to 94%	62%
• Writing	18	0% to 100%	40%
• Visual Acuity	17	0 to 7 (9-point scale)	2.7
Math Skills Assessment	21	4% to 88%	57%

GOAL 3: FACILITATE EMPLOYEE INTEREST AND INVOLVEMENT IN PROGRAM

The third program goal and objectives proposed that the staff disseminate information from the literacy audit, implement an educational/vocational counseling service, and develop Personal Education Plans (PEPs) for each program participant:

GOAL 3: **Facilitate employee interest and involvement in program.**
OBJECTIVES:
3:1 Disseminate information gained from the literacy audit broadly to employees.
3:2 Present orientation on the program to employee groups.
3:3 Implement educational/vocational counseling to program volunteers.
    3:3:1 Facilitate intake and pre-assessment, using Schneider literacy assessment.
    3:3:2 Assist enrolled participants in assessing vocational skills and aptitudes.
    3:3:3 Complete an exit interview and post-assessment, using Schneider literacy assessment tool.
3:4 Develop Personal Education Plan (PEP) for each participant.
    3:4:1 Establish measurable short and long range goals.
    3:4:2 Identify the benchmarks to evaluate progress toward goal achievement.
    3:4:3 Ensure periodic review of PEP, establishing a calendar.

Dissemination and Orientation

A number of methods were used to distribute information regarding the Skills Enhancement Program (See Project Director's report). There is evidence from focus group interviews that the information regarding ESL class offerings was known among the ESL population. There is also evidence that suggests that employees throughout the organization had a general awareness regarding one of the training offerings, the Traceability Control Form (TCF) and the International Standards Organization Audit (ISO) trainings, but that more information needed to be provided regarding other program features. Selected comments follow:

> I really didn't know much about the Skills Enhancement Program. I think it needed more marketing. It appeared to be a grass-roots effort which I am not sure was the best approach.
>
> I have a number of questions about the selection for the Skills Enhancement class offerings. I know it was voluntary and that there was a general testing at random which was strictly confidential. I know that a few individuals were invited to participate in a discrete way. I would have liked to see the recruitment efforts to have been more open. I wish it was more open so more people could have been able to say, "I could use some help in this area."
>
> Other than the TCF class, I have not been aware of other classes offered through the Skills Enhancement Program.

Educational and Vocational Counseling

Another feature of the program was to "implement educational/vocational counseling to program volunteers." Program records indicate that 15 employees received special assistance from the Skills Enhancement Counselor regarding advanced study of plastics, becoming a machinist, becoming a nurse, and ESL and basic skills classes offered at Robbinsdale. The information regarding benefits from this service is limited. The Program Director reported that the counseling helped many employees make a decision to leave the company during "right-sizing." The Program Director's comments are as follows:

One of our intentions of the Skills Enhancement program was to help people become more open to additional schooling. When the "right-sizing" option was offered one of the financial incentives was money to be used for retraining or advanced coursework. The role of the Skills Enhancement counselor was to help employees explore vocational options. I believe the counselors work fostered some employee's willingness to leave the company because they were ready for that decision in their life.

Personal Education Plans (PEPs)

Another feature of the grant was to be the development of a Personal Education Plan (PEP) for each participant. The original proposal envisioned that 100 employees would be identified, participate in the literacy audit, and then participate in training based on needs identified. The PEP was to be a way to help these individual employees establish measurable short and long range goals, help the teachers understand what skills needed to be addressed, and help both the employee and the teacher assess progress through the identification of benchmarks toward goal achievement.

The use of the PEPs for employees receiving assistance in English as a Second Lanugage was in keeping with the original proposal. Skills Enhancement Program records indicate that 43 employees had PEPs. The use of PEPs after the Spring of 1992 was greatly influenced by the company's "right-sizing." Instruction became more short-term, need-specific and designed around issues for large numbers of people. In that regard, the PEP process was not as relevant as first envisioned and the instruction did not evolve out of the PEP.

It appears that a number of factors limited the success of this feature. In an evaluation report, the first Skills Enhancement Counselor identified these:

1. Preparing the initial PEP's when employees have already started classes seems a bit inappropriate to me. The instructors were building curriculum without them; by the time the PEP's were available the curriculum was pretty much in place. RECOMMENDATION: Complete initial PEP prior to employees beginning classes to help guide curriculum development to individual needs as well as group needs.

2. Following plant protocol was necessary but caused the PEP process to take longer than I had expected. Not only did it take a long time to reach supervisors, but even when I was scheduled to meet with employees and they did not show up, it was difficult to reach the supervisors.

3. Supervisors/group leaders were willing to give feedback for the PEP's but it was very difficult to get them to be specific enough to prepare measurable objectives from their input (even when I used the example PEP as a guide).

4. Employees rarely were able to specifically identify their needs. They gave honest, generic needs (such as improving their pronunciation, learning more vocabulary, etc.) but again it was difficult to prepare measurable objectives from their inputs.

5. Perhaps if I had known more about all of the manufacturing processes and if the teachers could have helped formulate the measurable objectives, the PEP process would have gone better.

GOAL 4: PROVIDE SKILLS ENHANCEMENT INSTRUCTION

The fourth goal and its corresponding objectives related to the provision of instruction:

GOAL 4: **Provide individualized instruction to employees who have inadequate basic skills and, based on personal judgement, are: a) unable to perform their jobs effectively, b) ineligible for career advancement due to an identified lack of basic skills, or, c) unable to retain employment due to Schneider's increasing technology and the demands this places on medical manufacturing employees.**

OBJECTIVES:

4:1 Facilitate employee participation.
  4:1:1 Enroll 75 - 100 volunteer participants over a period of 18 months.
  4:1:2 Provide open entry, open exit, on-site educational programming.
  4:1:3 Provide each participant up to 4 hours training per week during regular work hours.
4:2 Develop curriculum.
  4:2:1 Establish Schneider workplace literacy curriculum.
  4:2:2 Select Schneider job or job related materials for skill development.
  4:2:3 Facilitate attainment of transferable skills.
  4:2:4 Include skills which would permit employees to be successful in post-secondary training.
4:3 Employ an interactive instructional approach.
  4:3:1 Utilize adult learning principles, stressing current and previous experiences and job knowledge, encouraging employees to attach new skills to old.
  4:3:2 Base instruction on PEP's.
  4:3:3 Establish an informal, collegial instruction environment.
  4:3:4 Model behavior and identify thought processes used to perform tasks.
  4:3:5 Cluster participants in groups accommodating PEP's.
  4:3:6 Utilize volunteer trainers from the employee group.

During the early months of the program, many objectives under goal four were realized; however, a number had to be redefined when the company "right-sized."

Employee Participation

It was anticipated that from 75 to 100 employees would participate in the Skills Enhancement Program for an extended period of time. As can be seen in Table 2, the program exceeded its participation numbers; however, participants became involved in need-specific short-term training rather than the longer course offerings originally envisioned.

TABLE 2
Employee Participation

Course	Total Number of Participants	Total Number of Hours	Average Number of Hours per Participant
• ESL, Summer 1991 (4-classes)	42	1008	24
• Reading Process Sheets (ESL)	14	210	15
• One-on-one Tutoring	6	80	13.3
• Math at Work	17	178.5	10.5
• Eyepiece Training	20	56	2.8
• TCF Training	230	720	3.13
• Understanding Diversity	28	224	8
• International Standards Organization (ISO) Training	200	200	1

Development of Workplace Literacy Curriculum

One of the key components of this program was to be the development of curriculum materials structured to reflect the needs of the workplace. There is evidence that the materials developed for each course were job-related. The approach was to provide the Skills Enhancement teachers with an opportunity to observe work flow; review work-related materials; and interview employees, group leaders, and supervisors. In the course descriptions which will follow later in this report, information is provided regarding how the instructors customized the curriculum for the Schneider workplace setting. In an interview, one of the teachers described a presentation she made regarding the melding of basic literacy and work-related materials.

> During a presentation I made about this program, I tried to show the audience how it is possible to use general workplace literacy with adult education materials and how to adapt those to the needs of a specific company. For example, in the teaching of phonics or vocabulary . . . just seeing the words they use on-the-job on a pronunciation sheet helps the employees next time they see it on the job. They are not only learning how to pronounce the words, they are learning what they mean, and they are learning word recognition. If you can surround the employees with the words that they are going to meet in the workplace, you are going to see all sorts of positive results. For example, when I was developing materials, I did look though a lot of ESL materials and adult literacy materials, but I tried to use them only as models because with a little ingenuity the materials from Schneider provided the text itself. I think that is a far better way of teaching workplace literacy, if the company is going to pay for it, and it is going to be a much easier job to sell the program.

Employ an Interactive Instructional Approach

An assessment of objective 4:3 sub-points is as follows:

- **Objective 4:3:1, 4:3:3, and 4:3:4.** In the focus group interviews with employees who participated in the trainings and trainers, supervisors, and group leaders, frequent mention was made of the extent to which the course offerings used adult learning principles. Specific examples are found in this report under "Outcomes for Schneider."

- **Objective 4:3:2.** In most cases, the course offerings were not based on the PEPs per se but on identified corporate training needs and needs identified through the literacy audit.

- **Objective 4:3:5.** In the early stages of the program, participants in the ESL classes offered during the summer of 1991 and in the Math at Work curriculum development classes were grouped to accommodate skill levels, as was specified in Objective 4:3:5. This was not possible for other course offerings; however, an attempt was made by trainers to group participants during the TCF sessions so ESL students would be able to obtain additional assistance and clarification of questions and vocabulary used.

- **Objective 4:3:6.** The TCF training and the ISO training utilized Schneider employees. It was believed that this strategy lent credibility because the content experts became the trainers.

GOAL 5: EVALUATE PROGRAM FOR BENEFITS

The fifth goal and its corresponding objectives related to evaluation:

GOAL 5: Evaluate program for benefits to the individuals served and to the organization.

OBJECTIVES:

5:1 Provide for ongoing evaluation.
5:2 Identify program strengths and weaknesses.
5:3 Establish and process a control group comparison.
5:4 Conduct focus groups of participants, nonparticipating employees.
5:5 Identify job behaviors which improved during the program period.
    5:5:1 Group statistics: productivity, quality, safety, attendance, documentation errors, scrap costs.
    5:5:2 Job advancement statistics.
    5:5:3 Job performance -- productivity, safety, quality, attendance, documentation errors, degree of involvement, asking questions, use of benefits.
5:6 Analyze data collected throughout program.
5:7 Solicit feedback from literacy, business, and education provider organizations in the State of Minnesota, as well as other hospital products group education specialists.

An assessment of each objective is as follows:

- **Objectives 5:1 and 5:2.** The program staff made provision to obtain feedback from the participants in all classes. The teachers and the Program Director also wrote an evaluation summary for each class offered. Participants, Schneider management, and the Skills Enhancement staff were also asked to identify strengths and weaknesses on an ongoing basis.

- **Objective 5:3.** Control group comparisons were not undertaken because the the effects due to "right-sizing" changed the focus of the program and became a major source of error which would have masked changes attributable to the Skills Enhancement Program.

- **Objective 5:4.** EnSearch, Inc., was contracted to conduct focus groups with participants. Nine focus group interviews and eight individual interviews were conducted over the course of the program.

- **Objective 5:5.** Appropriate group statistics and job performance data were analyzed and are presented in the EnSearch report; however, not all data categories identified in the original proposal were analyzed because effects due to "right-sizing" became a major source of error and would have masked changes that could be attributed to the Skills Enhancement Program. The Program Director planned to conduct an analysis of job advancement statistics (objective 5:5:2); however, this data was not made available to EnSearch in time for this evaluation report.

- **Objective 5:6.** The program staff analyzed data after each course offering and EnSearch was asked to summarize evaluation information during the summer of 1991 and at the end of the program in the fall of 1992.

- **Objective 5:7.** EnSearch can verify that objective 5.7 was met; feedback was sought from other literacy providers and businesses regarding general program design and workplace literacy issues.

Each course offering and curriculum development effort is examined below to identify benefits for the individuals served and the organization.

English as a Second Language Training

Three efforts were directed toward the literacy skills of employees who spoke English as a second language. Four classes were offered during Summer of 1991, another course entitled "Reading Process Sheets" was offered during Spring of 1992, and some employees received one-on-one tutoring. An brief description of each course/activity and an assessment of the degree to which it helped employees improve their skills is presented in the following.

ESL Classes -- Summer 1991. One of the first major efforts was the development and offering of English as a Second Language (ESL) classes. During the summer of 1991, 42 employees participated in these classes which were offered during work time to students grouped according to performance on the STEL (a standardized ESL achievement test), interviews with the counselor, and teacher evaluation.

The attendance rate for the four classes was at least 93%; reasons for absences included vacation, death in the family, required to attend other Schneider classes, and illness. The instructors spent time observing production activities and communicating with group leaders and supervisors. They used workplace materials to develop a work-related, job-specific curriculum, for example, forms for product production and medical benefit policies. Sound Advice, A Basis for Listening was purchased for every student to supplement the workplace materials.

The course was designed to help the employees practice listening, speaking, reading, and writing skills. Below is a list of some of the areas addressed (See the Program Director's report for a complete listing):

LISTENING:	• linked and reduced sounds in English • emphasized difference between spoken and written language
SPEAKING:	• pronunciation of vocabulary from process sheets • stating a problem on the job • asking questions • asking for assistance
READING:	• approach and method for reading process sheets (skimming, envisioning task, looking for cautions, reading figures, diagrams, paying attention to product quality)
WRITING:	• documenting appropriate information • writing to a target audience expressing perceived outcomes of the classes and future needs.

These classes were offered at the same time the assessment was being developed so no pre-post assessment data exists to document skill changes. However, qualitative data from a number of sources triangulate to verify specific changes in the employees' abilities to communicate with their co-workers. Selected comments from a focus group interview with employees who participated in the ESL classes and employee's supervisors, data from written memos, and written comments from students' in-class work provide data regarding specific ways employees were using new skills on-the-job. Taken together, it appears that the employees learned communication skills, gained confidence in use of their English skills in asking questions when they did not understand, and improved their ability to read Schneider production materials.

I want to express to you the improvement I have seen in [name's] English language skills. His communication skills have shown **much** improvement, and I can see the improvement reflected in his work. (Supervisor Memo)

The program was very helpful for Schneider. There is a significant population of workers at Schneider who have not mastered the English language that they need to do their jobs or to read and follow written process sheets [which] are written at a 12th grade level or higher. I see students, who were in the ESL classes, feeling greater comfort level. They now ask when they need help. They admit they need help. I saw them begin to try to communicate more, to try to use new words, and to feel more comfortable in doing that and not to feel as embarrassed to experiment with new words. (Supervisor in Focus Group Interview)

Before I could not understand what people said to me, now I really understand. (Student in Focus Group Interview)

I now know how to follow process, to do my job. (Student in Focus Group Interview)

I know how to ask for information if I don't understand what they said. (Student in Focus Group Interview)

This class helps Schneider because if we are good at communication we understand each other better and can improve the product. (Student in Focus Group Interview)

Often we see a problem but we can't tell anyone what the problem is. We don't have the language to explain the problem. (Student in Focus Group Interview)

I can read process sheets better. (Student in Focus Group Interview)

We listen better how other people talk and now understand what they are saying." (Student in Focus Group Interview)

I'm very happy that they have an English class in our company to help people who don't know much English like me. Before I could speak English just a little. Now I think I speak or understand my supervisor and my group leader when they talk to me a lot better than before. (Student Letter)

I have learned how to talk with people at work, how to use verbs and vocabulary, how to read and spell, and I have learned about process sheets. That helps me at work a lot . . . I feel better when I talk with somebody and I need to learn more. It makes me comfortable when I work. (Student Letter)

I have learned so many different things. I've learned new words . . . I understand a lot more than I did . . . Now when the Supervisor asks me questions or reads the process books and some of my co-workers say something, I know and understand exactly what they are talking about. (Student Letter)

I'm very happy that I joined the class. It's helped me a lot to refresh my English. We learned how to read, to listen, to speak, to spell, and to write. Learning how to read the processes is more helpful with work. I feel more comfortable when I talk to people, and they can understand me better . . . It's a good . . . to give a little time to learn the language. It will help the company a lot in the future because everybody will know what to do with their work and understand their job better. So they won't have to make a lot of mistakes. (Student Letter)

Reading Process Sheets (ESL). In Spring 1992, an ESL class, "Reading Process Sheets," was offered to help employees improve their ability to read and interpret their job's written work process sheets. This skill was identified by supervisors and group leaders and mentioned by the Summer 1991 ESL teachers as an area where additional work was needed. The course materials included sample process sheets and reading and vocabulary building materials. The skills targeted in the course were identified by the instructor as follows (See Program Director's report for complete listing):

- Following directions
- Skimming and scanning
- Reading quickly with high comprehension
- Finding information from the reading materials
- Building vocabulary

A total of 14 students participated in the two classes for a total of 210 instructional hours. Classes were offered during off-work time because of issues related to the company's "right-sizing" policy. As incentives, students were given stipends to help them with transportation and child care.

The pre literacy audit and a parallel post-test were taken by the 13 students enrolled in the Reading Process Sheets class. The skills tested were work-related and the materials used similar, to the extent possible, to those used in the work-setting. A comparison of parallel pre-tests and post-tests indicated that the students improved their skills (See Table 3).

TABLE 3
Literacy Audit
Pre-Assessment/ Post-Assessment

	Reading Section of Assessment (Number of Items = 17)		
	Pre-Assessment	Post-Assessment	Percent Change
• Student 1	35%	70%	35%
• Student 2	18%	70%	52%
• Student 3	47%	88%	41%
• Student 4	82%	100%	18%
• Student 5	82%	94%	12%
• Student 6	76%	94%	18%
• Student 7	41%	88%	47%
• Student 8	59%	100%	41%
• Student 9	23%	94%	71%
• Student 10	23%	70%	47%
• Student 11	94%	100%	6%
• Student 12	35%	100%	65%
• Student 13	82%	100%	18%
Average:	**54%**	**90%**	**36%**

A student questionnaire provides additional indication of changes in students' skills. Selected comments are as follows (See Program Director's Report for additional information).

QUESTION: What skills did you learn or improve in this unit?

- "We learned skimming, reading quickly, understanding vocabulary, identifying parts of speech, scanning."
- "Following directions, vocabulary, reading quickly, skimming, scanning."
- "Reading quickly, understanding vocabulary, skimming, scanning, identifying parts of speech, finding answers from reading."
- "Process sheet comprehension questions."
- "Learn more English and understand more process."

One-on-one Tutoring. Tutoring was provided for employees who could not participate in a group setting. Six employees, the majority of whom spoke English as a Second Language, received tutoring for 80 instructional hours. In a focus group interview with four of these six employees, it was learned that the tutoring was helping the employees improve their understanding and communication skills. Selected comments are as follows:

> My comprehension is better. My speaking is better. I can write better. My spelling is better. Everything is better.
>
> Often we see a problem, but we can't tell others what the problem is or explain to others how to make a needed change. We don't have the language to explain what the problem is. This tutoring helps us with that.
>
> I can read process sheets better. The tutoring allows us the opportunity to ask teachers to explain the process sheets.

In a series of interviews over time and as reported in her final report, the Program Director identified a number of outcomes from the one-on-one tutoring. Her comments are paraphrased as follows:

> When one student, who was working two full time jobs at the start of the program, was forced to decide between the companies, she selected to remain at Schneider. One of the reasons that appears to have affected her decision was the company's efforts to provide individualized training.
>
> One of the students had special needs because she came from [country] rather than a Southeast Asian country. She especially appreciated being able to work on her unique pronunciation issues. Information gathered from her supervisor indicated that the one-on-one tutoring had a positive impact on job performance.
>
> For one of the students involved in one-on-one tutoring, the group leaders would not sign-off that she had mastered key skills and her supervisor was determined to take disciplinary action. The Skills Enhancement Program staff did an assessment with her and learned that she was having difficulty with her "endings" so that she could not make it understood whether she was saying "thousands" or thousandths." In addition, she came from a culture where 1,000.00 was written as 1.000,00. After working one-on-one with her, she learned the needed skills and retained her employment.

Changes in job-related skills. The pre/post literacy assessment and the qualitative data regarding changes in reading and oral communication skills on-the-job indicate that the Skills Enhancement Program is helping adults who lack basic skills obtain needed work-related literacy skills.

Meeting ESL Literacy Needs. In questionnaires and through interviews, the students identified ways their skills improved. They often expressed their appreciation to the company for providing the opportunity to learn needed skills. However, they called for more training and reported that others wondered when it would be "their turn" to get the needed instruction. Selected comments follow:

> This is wonderful. Tell Schneider thank you. You do not expect this type of help from a company.
>
> There is not enough time for class. I need more time, but I don't think the company can afford it.

> Many are asking us, "Why are you so special? Why do you get to go to class and we don't?"
>
> Some say to us, "When us? When do we get to go to class? It's not fair that we can't go to class!"

The Robbinsdale teachers also expressed concern that the company did not fully appreciate the extent of the literacy problem for the ESL population or the need to help ESL employees develop their English literacy skills. In teacher evaluation reports to the company and in individual interviews they talked about the continuing need as follows:

> [There is a need for] inservice interaction for group leaders and supervisors to discuss realistic expectations for learner outcomes in a second language. For example, pronunciation improves slowly and an accent cannot be eradicated. Pronunciation is the most noticeable problem for co-workers and supervisors of those with English as their second language. More emphasis is needed in this area. (Teacher Evaluation, Summer 1991 ESL Classes)
>
> This ten-week Reading Process Sheets Module was a short time for a comprehensive course. Pronunciation is the most noticeable problem for co-workers and supervisors of those with English as their second language. Students also expressed the desire to spend more time on using new vocabulary words in conversational context and to practice specific points of pronunciation. Therefore, a class which is designed specifically to address these expressed needs is recommended. (Teacher Evaluation, Reading Process Sheets Module)
>
> Supervisors say that their ESL employees need to speak English better and understand English better. (Teacher interview)

ESL students are also continually asking for more help and asking the Program Director and teachers when more courses will be offered. The Program Director reported that it isn't clear to what degree the company will or can make a commitment to its ESL employees. Paraphrased comments follow:

> The legal implications demand that the organization make a decision regarding what skills the organization requires. There may come a time when people who are employed here cannot meet those requirements. It may be because of a learning disability or it may be because they can't learn fast enough. We are currently establishing programs so we can make training available to close that gap. When you take action against an employee who is not meeting job requirements, everything you do must be in line with various governmental acts and policies. The company has to provide answers to some difficult questions: Do we require that everyone be at a certain level of independence? Or can we get by with a certain number of people who can be kept at a certain level who may need more supervision? Is that the way the business wants to run? Can we run profitably? Can we still serve the customer?

Math Instruction

Three curriculum development efforts were undertaken to identify needed work-related math skills and to develop materials to address math related literacy needs. During the first summer a two-level "Math at Work" course was developed. During the summer of 1992 two additional training packages were created. One was to provide employees with help in using decimals and the other to develop "eyepiece" training to teach how to measure area and skills needed to make quality control judgements.

Math at Work Curriculum Development. Robbinsdale's adult literacy math teachers and a selected group of employees worked together to examine how math was and needed to be used on the job. The teachers developed an employee questionnaire and a math pre-assessment as a way to identify work-related math skills and the degree to which employees possessed those skills. From this information two course outlines were developed. A listing of some of the topics for each course is provided below.

Course Outline: Group 1
- Math terminology
- Whole numbers - TCF forms
- Time - time cards, drying time, reading dates for calibration
- Fractions - equivalent forms and ordering
- Decimals - tolerances
- Eyepiece - reading measurements
- Formulas from SPC - X-bar and R charts

Course Outline: Group 2
- Wholes - TCF and other forms
- Decimals - problem solving: tolerance, charts
- Charts/Graphs/Tables - reading from process sheets, graphs posted in work area, X-bar and R charts
- Percents - finding the number of parts (ADL)
- Time - time calculations on work floor

A total of 17 employees participated in this class; 178.5 instructional hours were provided. Pre-test and post-test information indicated an increase in the employees' skills (See Table 4).

TABLE 4
Math Pre/Post Assessment

	Pre-Assessment	Post-Assessment (Percent Correct)	Percent Change
* Student 1	58%	77%	19%
* Student 2	73%	100%	27%
* Student 3	46%	58%	12%
* Student 4	42%	69%	27%
* Student 5	12%	12%	0%
* Student 6	4%	27%	23%
* Student 7	88%	81%	-7%
* Student 8	65%	88%	23%
* Student 9	80%	85%	5%
* Student 10	58%	65%	7%
* Student 11	65%	88%	23%
* Student 12	69%	88%	19%
* Student 13	54%	85%	31%
* Student 14	31%	38%	7%
* Student 15	77%	88%	11%
Average	**55%**	**70%**	**15%**

Students' comments during a focus group interview identified ways they improved their skills with the math materials and the pilot-testing:

> This was a good refresher. It focused on math that I had not used in a long time.
>
> It helped us. For example there were times when working with the engineers when we did not know what they wanted. The teachers broke it down for us. For example, how to use the eyepiece.

Eyepiece Training. Robbinsdale's adult literacy math teachers worked with engineers, quality supervisors, and quality inspectors to develop an eyepiece training. In order to accept or reject parts in one of the production factories, employees must visually inspect a product using an "extremely difficult to read eyepiece," figure area, and use this information to make a "scrap," "acceptable," or "rework" decision. To be able to make these decisions, the employees must be able to perform the math operations of addition, subtraction, multiplication, division and be able to figure area, decimals, percentages, and to convert fractions to decimals. The objectives of the training were to help the employees learn how to measure and figure area.

A total of 20 employees participated in this pilot-training for 56 instructional hours. Pre/post assessment data was not collected because it was a pilot course; however, one of the activities indicates that the training will increase the company's productivity by reducing the number of products scrapped because literacy errors and/or errors in judgement are made.

Although this training was proven to be effective for the company, it appears that future training has been delayed because of company "right-sizing." At first it was anticipated that the group leaders would provide this training. These positions were recently eliminated, leaving the decisions regarding future trainers still to be made. In addition, Schneider had requested a math teacher to help with the training; however, by the time a potential teacher was identified the group leader position had been eliminated so the training and the hiring of that individual had to be placed on hold.

Decimal Units. The work on the eyepiece training led to the the development of decimal materials for two different levels. Employees who used the materials found them helpful and applicable to decimal problems encountered in their work setting. Selected comments included: "It refreshed my skills," "It gave me more confidence [in working with decimals.]"

Originally it was intended that the decimal packets be left in the employee cafeteria so employees could access them easily. Employees suggested this may not be good because of confidentiality issues. Over half involved the development of the decimals unit suggested a teacher or knowledgeable person be available to answer questions as employees worked on the unit. They also recommended adding a vocabulary and definition list.

Continuing math needs. This area seems to be one of the least successful components of the training program. The program was successful in that materials were developed but the use of those materials beyond the pilot stage has yet to be achieved. The right-sizing of the company played a role in many ways, not the least of which was that supervisors and group leaders who were committed to the training, such as in the area of the eyepiece, were no longer in a position to ensure the training would take place. It also appears that the balancing of Schneider's and Robbinsdale's organizational needs and commitments made it difficult to respond when the need for training was first recognized. The Robbinsdale teachers' evaluation report from the summer of 1991 appears to be germane to the literacy issues present at the time of this report. Selected comments from that report follow:

> Supervisors, engineers, and group leaders sometimes assume all workers have a certain competency level in mathematics -- this assumption can be erroneous.
>
> A calculator cannot do all math skills. Certain thinking skills in math sometimes have to be taught; such as estimating, rounding, comparing decimals, and problem solving. Calculators should be more accessible . . . if used, calculators would reduce math errors on the TCF and other forms.
>
> A resource library and drop in center for math help should be provided. This should be available not only to those employees enrolled in a math class, but for any worker having difficulty with a math skill used on the job or with questions from SPC training.

Traceability Control Form (TCF) Training

The Traceability Control Form (TCF) is used by Schneider employees to document production work and provide a record of each product. The form is critical because documentation errors could force a company shutdown. TCF error was identified in December of 1991 as the most critical training issue for Schneider. A decision was made to have the TCF training become a part of the Skills Enhancement Program. Robbinsdale teachers began to work with Schneider's supervisors, group leaders, quality assurance personnel, and other employees to determine why errors were occurring and develop a training to improve TCF documentation.

The anticipated outcomes from the TCF training were as follows:

> Participants will demonstrate knowledge, understanding, and competence in their performance of their Good Manufacturing Practices (GMP) documentation compliance responsibilities by:
> - Observing and auditing TCFs.
> - Taking responsibility for correcting errors.
> - Inspecting their own work for errors.
> - Stopping TCFs or lots with errors.
> - Identifying errors correctly.
> - Documenting accurately, in compliance with GMP.

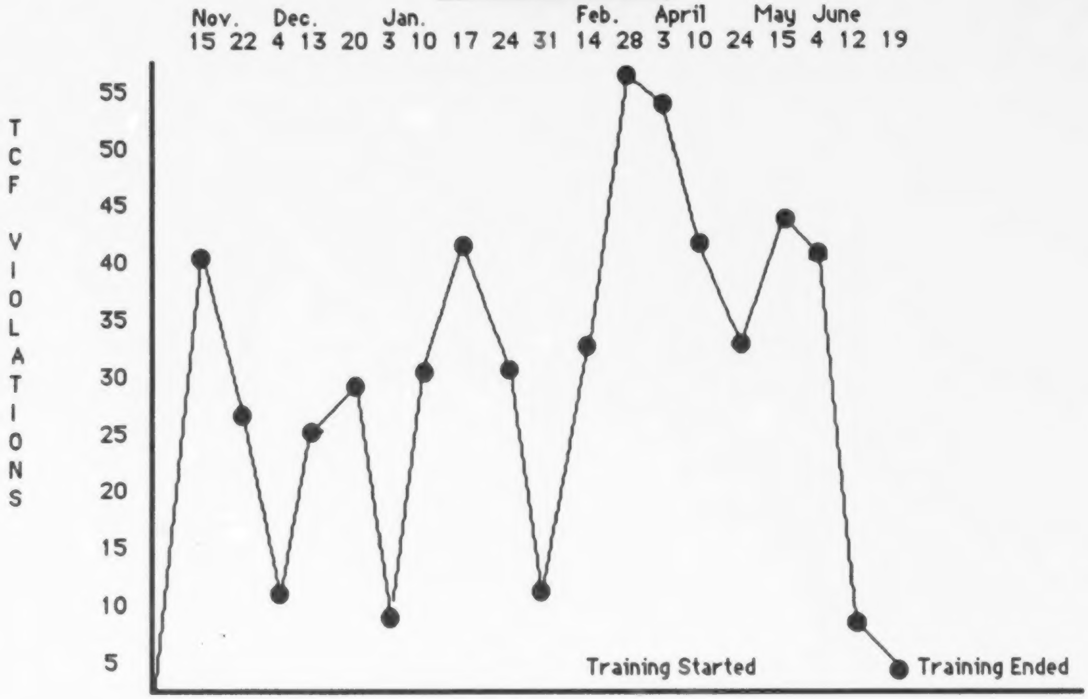
In total, 230 employees received instruction for a total of 720 instructional hours. This was the most successful training provided and had the most direct and significant impact on the company. Outcome data indicate a 48% reduction in the number of errors made on the sample form developed for the training and that the average number of errors made on this assessment dropped from 6.7 to an average of 3.5 errors (See Table 5).

TABLE 5
TCF Training – Pre/Post Assessment

TCF Skill	Pre-Assessment Number of Errors	Post-Assessment Number of Errors
* Position Extension	0	0
* Process Name Number	0	0
* 4 Category	0	0
* Documentation Information	0	0
* Variance	0	0
* Operation Number	112	36
* Issue Number	29	7
* Line in Boxes	55	25
* Cure Time	140	66
* Reversal	159	75
* Missing Date	28	5
* Unclear Employee #	44	21
* Wrong Quantity	117	99
* Wrong Quantity all	167	121
* Quantity Between Lines	52	16
* Incorrect Correction	81	38
* Wrong Date	221	137
* No Date	59	18
* Quantity Under Disposition	112	67
* Quantity Under ADL	143	73
* Math Errors	143	73
* Average Assessment Errors Per Employee	6.7	3.5

The number of TCF violations found by the Schneider employees dropped to less than 5 after all employees received TCF training. An analysis of the number of violations over time is presented in Graph 1. As can be seen, the number dropped from over 55 violations before the TCF training began to less than 5 after the training was complete.

GRAPH 1
TCF Violation Study



TCF trainers reported a change in employees' attitudes regarding the TCF:

> We are now experiencing a difference in the willingness among "everyone" using the TCF to do so correctly. People now ask for help if they are in doubt, or are most anxious to make the correction if shown a mistake.
>
> Yes, the TCF mistakes have gone down, but the greatest thing we got from the training was that awareness has increased regarding why the TCF has to be correct. It used to be a very hard job for the inspectors to ask people to correct something on the TCF and to tell them that it was not done right. Now nobody questions the inspectors doing that. After the training, employees still can make mistakes, but they no longer question why it needs to be corrected and they are much more receptive to fixing the errors.
>
> Employees now realize why we need to have good documentation, that we need to be accurate to be in compliance with GMP.
>
> The engineers seemed [to think] we were being nitpickers when we would ask them to correct something on the TCF. I think the training really made an impact on them. The fact that [name] taught it and because he was an engineer really gave the training credibility.

Class evaluations indicated that the most successful aspect of the TCF training was that it related directly to the job:

- The TCF training related directly to the job and relevant job skills.
- The training featured real workplace materials in overheads, handouts, worksheets, and exercises.
- Participants viewed visual and hands-on materials as effective, relevant, and applicable to real workplace needs.
- The lesson plans addressed behavioral objectives identified by the team, and questions/needs identified by participants.
- The training assessment gave participants valuable, confidential feedback on specific personal TCF skills.
- The participants left the training and practiced skills on the job. When they subsequently experienced questions or problems, they approached their trainers (the acknowledged experts) for additional help.

Another indicator of the success of the TCF training was the extent to which students who had been identified as lacking specific literacy skills improved those work-related skills. The literacy audit included a section which focused on an employee's ability to complete the TCF. It was designed to measure ability to:

- Interpret and follow sequential directions.
- Locate information on a chart.
- Identify details.
- Interpret codes and symbols.
- Place documenting information in the correct place.

There were 16 employees who participated in the TCF training and who took the TCF section of the literacy assessment. Some of these employees also received one-on-one tutoring following the TCF training and 12 of the 16 employees had been involved in the ESL offerings. The data indicate that 14 of the 16 employees improved their TCF writing skills. The data also suggest that additional work is needed in this area.

TABLE 6
Literacy Audit – TCF Section

	Reading Section of Assessment (Number of Items = 8)		
	Pre-Assessment	Post-Assessment	Percent Change
• Student 1	62%	100%	38%
• Student 2	100%	75%	25%
• Student 3	88%	100%	12%
• Student 4	62%	100%	38%
• Student 5	13%	100%	87%
• Student 6	88%	100%	12%
• Student 7	100%	100%	0%
• Student 8	0%	50%	50%
• Student 9	75%	50%	-25%
• Student 10	50%	38%	-12%
• Student 11	0%	100%	100%
• Student 12	100%	100%	0%
• Student 13	0%	50%	50%
• Student 14	14%	38%	24%
• Student 15	50%	62%	12%
• Student 16	0%	50%	50%
Average:	50%	75%	25%

International Standards Organization Audit Training (ISO Training)

The International Standards Organization Audit Training (ISO Training) was undertaken to help Schneider become certified for selling its products in the European community. It is anticipated that this stamp of verification will become a standard for quality which will affect a company's ability to sell products world-wide. The FDA is incorporating the ISO requirements into its own; that will ultimately affect the sale of products on the domestic market.

The training was to help the employees understand the audit and how it would benefit Schneider and to enable employees to respond successfully to oral questions during the ISO audit. A total of 200 employees participated in this training. Class time was one hour, so 200 instructional hours were provided. This total does not reflect the continuation of the training through study and drill with supplemental materials.

A number of methods were used to make sure that the ISO training was effective: a skit where an external auditor selected Schneider employees at random and asked questions, a practice session where employees worked in teams to match questions and answers, and another skit teaching why obtaining ISO certification was important. In addition, the employees who spoke English as a second language were unobtrusively grouped to facilitate in-depth questioning, clarifying information, and verifying that information presented was understood.

The participants evaluated the ISO training. As can be seen in Table 7, the training received high marks from the employees in the areas of instructors' facilitation, activities and exercises, course materials, and pace of the class.

TABLE 7
ISO Training
Employee Questionnaire

Please rate the following:	Percent choosing a 4 or 5 on a five-point scale
* Instructors' facilitation	88%
* Activities and exercises	91%
* Course materials	91%
* Pace of class	89%

When asked what they liked best about the class, the employees responded that it used effective educational strategies, was specific, and suited the training needs and objectives. When asked how the class could be improved, most employees could offer no suggestions; a few comments indicate that too much material was covered in too short a time. Selected comments follow:

- The skits were interesting and reinforced what you wanted to get across to the people.
- The course was presented in a manner that was very easy to listen to and understand.
- The participation; we were forced to be involved so we could understand better.
- Inventive, liked use of humor, great use of resources.
- It was interesting as well as informative!
- Course was designed and delivered to the stated target audience. What a terrific job of incorporating observation, lecture, and experiential learning with appropriate "checks for understanding."
- Maybe a little more time, not quite so rushed.
- Extended role playing for groups in the class.
- Another session [would improve the course].

Repeatedly the Robbinsdale adult literacy instructors were identified as helping to make the ISO training appropriate and educationally effective. One such comment was, " The involvement of the Robbinsdale teachers is what made the ISO training down to earth and at a level that everyone at Schneider could understand and appreciate."

At the time of this report, the auditor had made a pre-audit site visit. The report from that visit indicated that the training had been effective.

> The auditor was delighted with the employee's ability to respond to his questions. There was one question she could not answer, but we had taught everyone if they did not know the answer to not to be afraid to say that they did not know, and that is what she knew. Believe it or not it also helped me during the audit of the training records. The auditor asked a question and I said, "This is what I think it should be but let me check." I was free to acknowledge that and to go and find the answer.

Cultural Diversity Training

The cultural diversity unit evolved because of a pre-existing need that was highlighted by the early ESL classes. The class was devoted to raising employees' awareness that diversity is an issue in the workplace and how it impacts them and to teach the employees intercultural communication skills . At the time of this report the pilot training had been offered and the training department had scheduled a pilot of the second phase of the training for early December 1992.

As a result of the pilot class, participants encouraged the training department to offer this class for all Schneider and American Medical Systems (AMS), a sister company, employees. At Schneider, the diversity training will become one the employee development courses offered in 1993. The AMS company has made diversity their key employee training issue for 1993. In general, participants wanted more time devoted to this training and expanded opportunities for examining specific cases of intercultural miscommunication and possible corrective actions. The following is a portion taken from the Skills Enhancement Program staff report summarizing participants' suggestions for improving the course.

> 100% of the respondents said that having Schneider and AMS participate together was valuable. It enhanced communication between the sister companies and gave everyone the chance to meet new people, get new viewpoints.
>
> More than half of the fourteen respondents felt it wasn't long enough. Most wanted more time to discuss case studies and specific ways in which these case studies and other scenarios could be treated effectively. A few people felt that enough topics were covered in the four-hour workshop.
>
> Ten out of fourteen responded that a good number of objectives were covered. Those respondents who didn't agree again wanted more time discussing how our new-found understanding of diversity could enhance the workplace.
>
> Everyone wanted more of what was begun:
> - more cultures other than Southeast Asian
> - more case studies
> - more discussion about types of diversity in the workplace.

When asked how the participants would use the information obtained through training, they reported that they would pay more attention, ask more questions, think about their style of communication, be more aware and open to different ways of doing things, and try to understand how others feel. They reported that they would stop assuming they were understood and judging others' abilities and actions. They said they would continue to listen, learn, gather information, be open, and encourage people to communicate. Selected comments from the written questionnaires were as follows:

QUESTION: WHAT DO YOU PERSONALLY PLAN TO DO ABOUT DIVERSITY? I WILL:

Start:

- paying even more attention.
- asking more questions for clarification; understand that just because someone speaks a language doesn't mean they necessarily understand.
- being more aware and open to different ways of doing things and others' ideas.
- thinking more broadly about diversity.
- trying to understand more about each of my employee's backgrounds so I better understand what makes them do and behave the way they do.

Stop:

- assuming I am understood.
- being quick to decide what someone feels by their reactions.
- judging others' abilities and actions based on preconceived ideas.
- thinking all people are alike.
- assuming others have the same understanding of certain words.

Continue:

- to place efforts on being aware of various diversities.
- offering assistance and trying to understand.
- to clarify and assure that everyone in my group understands.
- listening to others carefully and being receptive to variations.
- encouraging people to communicate.

Outcomes for Schneider (USA)

The Skills Enhancement Program has benefited Schneider (USA).

Assessment of skills. The company became better able to identify the degree to which an employee may need training in work-related literacy skills. According to the Program Director:

> We, at Schneider, needed to be able to clearly identify skills needed when we hire and on the job so we can prepare our employees. Through the assessment we will not be able to give a red light or green light or be able to say we can't hire this person. Instead, the assessment will help us know what level of skills future employees bring to the workplace and help us identify our responsibility for fitting people into the right job and providing the needed training.

Examining root causes of inefficiency. The company is beginning to examine the literacy problem by looking within the company processes, policies, procedures, written communication, and training to determine how they influence the ability of the employees who lack basic skills, as well as all employees, to do their job effectively. Comments from Schneider employees, supervisors, group leaders, and trainers were as follows:

> Now, instead of a pointing at a "who," [we point] at a "what" and how we as a company affect the issue. For example, reading comprehension is a big issue. It used to be "Who can't read?" Now it's, "Why can't they read?"
>
> We are looking at how much data, how much information, needs to be presented to someone when they are learning, how much can be written down or can be in pictures. If a picture is worth 1000 words, why have the 1000 words? We are changing our perspective on what is required and what is really necessary to get the job done and the quality in place.
>
> I think we will be developing training for people who do the writing so they have the perspective of the people who are reading the process as well as the perspective of the teacher who knows what the different learning styles are.

Improved company training. The data indicate that the assistance of the Robbinsdale adult literacy teachers helped the company improve training. This was one area that employees, trainers, supervisors, and group leaders all mentioned as a benefit for Schneider. Trainers reported they learned new delivery techniques and gained confidence in using them.

> I heard from the supervisors who have gone through typical Schneider training sessions that they were dreadfully boring . . . The supervisors we were asking to do the training said, "We don't want to stand up there and have 300 people fall asleep on us." So we tried to come up with teaching techniques that weren't too radical but at the same time would be more hands-on and keep people involved. The evaluation we got from the TCF program was that employees really liked the hands-on-activities. I believe that this approach was also very beneficial to the slower learners and the ESL students. We know, from the evaluations, that even the slower learners and the ESL students were mastering many of the TCF concepts presented during training.

> I learned new ways to teach content and topics. We used a number of skits and more visuals to help get our message across. I wasn't so sure how that would be received, but after the class a number of people came up and told me that it was a great training. I have learned how to teach more effectively and efficiently.

> [The teachers from Robbinsdale] were able to look at the training situation with fresh eyes. They could point-out difficulties with the processes and the words used. They were able to talk with people who were having trouble and understand why that was happening.

> The nature of training in the past ended up being a lecture format. That is not always an appropriate format for every audience we have. We have a very diverse audience. We have Ph.D.s, to people who just graduated from high school, to a group for whom English is not their native language.

> The Robbinsdale teachers helped us see the importance of emphasizing certain points through exercises and other activities. They gave us some hints about teaching.

Needed skills identified and company policies clarified. The approach taken for training development enabled company policies to be clarified and critical skills identified. Schneider employees and the Skills Enhancement Program staff reported:

> The various groups were not in agreement and they were not aware that they were not in agreement. This group felt you completed the TCF this way. This other group felt you completed the TCF this other way.

> The work in math was good, but it did not evolve in ways that we originally intended it to. I think the work in that area opened up some wounds. Such as the way their process sheets are written, the use of terminology that is foreign to non-math students, like "x-bar". There isn't any reason to use that language and it only causes confusion.

> Other individuals within the company have said that they learned that the process sheets, for example, don't have to be written as they are. They learned that the language used doesn't have to be used and that they need to be more sensitive to who's actually using the process sheets.

Perception of the training department. This program had an impact on the way the training department was viewed and the way training was operationalized throughout Schneider.

> In the past it appears that there were bad feelings between personnel and the operators and supervisors . . . I think this program has helped the supervisors and operators see that the training department is capable of and wants to respond to their needs but that it has real budgetary restrictions.
>
> The program helped the training development address a perspective that we were the "training experts." We didn't want to be viewed as the experts. We wanted employee and management commitment, support, and buy-in. If the company or division owns the training and brings in their own people to support or reinforce employees when they are behaving in correct ways, then we know the training will be successful and will be maintained back on the job. When the training department was viewed as separate, that link was more artificial. One of the best training programs we developed was one where we had a functioning team . . . We had people from all different parts of the company together to identify the problem and determine training content and activities.

Comfort in asking questions. One of the outcomes identified by supervisors, Robbinsdale teachers, and group leaders was that more trust and comfort in asking questions began to emerge. It appears that the TCF training was one reason this began to happen. Selected comments follow:

> I still want training to be opened up so that more people who need it can get the help. [Is it safe to admit that one has a problem?] It's a lot safer now than it was in the past. The training really helped that.
>
> After the first TCF session, we gave the employees a form and asked them to write down questions. During the second session, the class was started with supervisors going over specific questions. On the course evaluations, people often commented that they felt like their questions were answered. The supervisors who were involved in the training even said, "We can't go in the lunch room any more because people are stopping us and asking us questions about the TCF. On the floor, people are asking more questions." Everyone feels better about asking questions.
>
> It's not just the skills that people need but they also need to be positive about themselves and be comfortable talking to co-workers and willing to ask questions. Those skills were enhanced by the English training and the TCF training . . . We helped people to realize that it wasn't dumb to ask a question but it was being smart so you can know the right answer and do the job right the first time.

A place to up-grade basic skills. The Skills Enhancement Program began to provide a place where employees who wanted to improve their skills could go or where concerned supervisors and group leaders could send employees who lacked needed skills. It also gave the company options other than disciplinary action and termination for an employee who was not able to carry out work assignments competently.

> The company started to focus on, "What is the root cause of some of these workplace issues that are happening?" Now instead of people looking and saying, "This one thing is the problem," they are starting to say, "There is a skills gap." People are not afraid to talk about it.

Outcomes for the Adult Academic Program of the Robbinsdale Area Schools

Outcomes for Adult Academic Program of the Robbinsdale Area Schools as identified by the adult literacy staff and Schneider employees included that teachers gained a broadened perspective and know more about workplace literacy issues and needs and how to organize instruction for business. The program also gave the teachers an opportunity to create new materials.

> It has broadened the perspective of the [Robbinsdale] educators. They have found out that it's a different world in business. It operates with different rules. This projects has brought two different worlds together. Two different management styles and operating systems.
>
> Robbinsdale is getting good P.R. Most of the people in this building know we are Robbinsdale teachers.
>
> I have learned a lot about workplace literacy as an issue. It is something I have always been interested in but I was approaching it from a pretty negative perspective. I always felt that workplace literacy meant limiting the range of possibilities within a classroom so that everything evolved around the workplace. I wasn't sure if there would be carry over into other dimensions of the employees' lives . . . But now I [know] that people are empowered whenever they feel they are learning. If they are learning and providing food on the table for their families, they are going to be the most motivated students around. It's probably one of the better combinations I have seen. In [my other classes] some of my students don't attend as regularly as I would like because of work conflicts. If the workplace is an educational site as well, they almost have to come once they are at work. So I have learned quite a bit about workplace literacy from this program. I am much more positive about it.
>
> This program has been a help to me professionally. I have learned about the greater connection between language and living skills.
>
> They have gained a lot in how to organize instruction [for the ESL employee.]
>
> The teachers now see how the language is used on the job and the problems connected to that. The teachers felt good about the assessment tools and the curriculum that they developed and really liked working with the individuals at Schneider.
>
> Through this cooperative team effort, two distinct worlds came together to address the literacy needs in our workplace. I experienced, in action, the tremendous changes that resulted when content experts from business and teaching experts from education joined in a cooperative effort to solve problems. Some of these changes produced by this cooperative workplace literacy effort included: 1) Improved level of basic skills among employees, 2) increased employee productivity and job quality, 3) enhanced employee self-esteem and confidence, and 4) increased understanding, appreciation, and communication between education and business.
>
> Last night I had a new student and he was a machinist. When he said that he used math on the job, I was familiar with the math used in business so that helped me understand the type of math skills that he might be using on the job.

DEFINITION OF WORKPLACE LITERACY

Over time the program changed its focus from a traditional basic skills or ESL approach to one that was job-specific job-related. The TCF, ISO, and cultural diversity trainings were offerings where there was considerable disagreement whether they were within the original intent of the grant. One perspective was that it helped employees with their communication skills, making sure they were clearly understood in both written form and in interpersonal and small group settings. Not everyone was comfortable with this perspective. Some believed there is a difference in definition between training and literacy and saw TCF, ISO, and cultural diversity as trainings designed to serve Schneider's needs and not workplace literacy needs. Selected comments from both perspectives follow:

> I believe there is a difference in definition between training and literacy. I see the TCF as training and not literacy. However, out of the 200 participants, I think there were probably 20 employees who really needed additional work because they lack basic literacy skills. For some of them it is probably a matter of brushing-up, for others, probably 10, it is basic literacy needs.
>
> I am concerned, a little bit, about how this TCF program meets the requirements of the grant. I feel as though perhaps the ESL population is being slighted. I think it is the kind of training that Schneider needed . . . Is it training? Sure . . . We never use the word training in education . . . In that view, workplace or literacy should be something that promotes independence, use of the printed page. I guess that is what this program does, but in a very limited way. And because the TCF uses so many numbers as well does this become literacy training? It gets blurred because of the particular case.
>
> The cultural diversity training, I've wrestled with in my own mind. I don't see it as a direct literacy issue. I wouldn't want to be the evaluator here. I think in many respects everyone involved can say the money was very well spent, very well spent. I think that the employees will have gained ultimately from this.
>
> The original proposal was narrowly focused on what we would consider relatively traditional literacy skills. In implementing the program, we expanded way beyond that. When you begin to get into the math area, for example, we were not really working with literacy students per se [but identified some literacy and brush-up issues]. The diversity training is certainly a peripheral issue and not a direct issue. The TCF training has had very real impact upon people's ability to do their job and do their job well. In that sense it's a literacy issue, but it was not direct literacy instruction.
>
> When I look at the TCF, ISO, and diversity training, I think the beauty of the grant was that there was flexibility in it. I think when you talk about skills enhancement . . . in a workplace you can't just narrow it into specific courses for X target audience and not expect to also be liable for what is happening in the company. As a result, I think there was flexibility that had to exist because all businesses are now in a fairly volatile state and the issue of change is built in. When you look at the partnership from a company standpoint, change is our reality and the greater our ability to accommodate change, in a timely fashion, the better we are able to meet the needs of our worker population and our external customer.
>
> At first we had the viewpoint of education, that we were going to bring the program from Robbinsdale to Schneider and that it would be essentially the same program and the same skills but that we would reinforce those skills with workplace materials. What it has become is a focus on using the skills . . . We are not going

> through a regimented step-by-step of skills development. Instead we are focusing on hot-points and how those impact the product, the quality, the bottom line.
>
> In [the Schneider environment] the instruction had to become focused. People coming into the business environment need to be responsible for the skills that are needed on the job. We need to be able to identify what skills people have and build the instruction to bridge that gap . . . That approach doesn't address the literacy needs out in the world. I believe some of that will transfer, but the bottom-line in a business setting is to focus on the skills needed for the job.

It is clear that the TCF training, ISO training, and cultural diversity went beyond what was originally intended. It appears to the evaluator that the differences of opinion regarding whether or not these trainings were appropriate for the grant go to the heart of workplace literacy. The TCF training, for example, was one of the most significant activities undertaken. It helped the Schneider management understand issues of literacy in concrete terms. If the ability to communicate clearly in written and oral communications is a literacy skill, then the TCF, the ISO, and the cultural diversity trainings all fit under the broad literacy rubric. These also fit within workplace literacy definitions found in the more recent workplace literacy literature. According to Phillippi (1991):

> Functional illiteracy is not a problem that can be measured in terms of high school diplomas and reading grade levels -- it is a performance problem -- an inability to apply basic skills to specific job duties -- to translate and use information to solve simple problems or accomplish routine tasks.

In addition, the document provided to grantees, Workplace Literacy: Reshaping The American Workforce, specified several types of training the grant could support. If given their broadest interpretation, the TCF, ISO, and cultural diversity trainings appear to be worthy of support. Excerpts follow:

> . . . The statute creating the National Workplace Literacy Program specified several types of training the Program could support. These include work-based adult literacy and basic skills services, adult secondary education or its equivalent, English as a Second Language training, training to update literacy skills for technology, and training to improve thinking, reasoning, and problem-solving. The Department has interpreted the latter category also to include team-building and employability skills . . .
>
> . . . How workplace literacy instruction is provided is critical. A basic and important distinction exists between academic basic skills education and workplace basic skills training. As the report by the Secretary's Commission on Achieving Necessary Skills (SCANS) states: "The most effective way of learning skills in 'in context,' placing learning objectives within a real environment rather than insisting that students first learn in the abstract what they will be expected to apply." For example, the emphasis on on-the-job reading should be on locating information for immediate use and problem-solving . . .
>
> . . . To be effective, instruction and curriculums must be designed around active information-seeking and processing using job-related basic skills in tasks such as locating information in job manuals, and manipulating information to solve job-related problems.

FACTORS THAT LIMITED SUCCESS

Right-sizing. One of the primary factors that limited success was the "right-sizing" at Schneider. It had a profound impact on the way the grant was implemented.

> We lost a lot of the students who started classes in the early stages of the program during the company "right-sizing" and the subsequent voluntary resignation program. We lost some energy at that point because it was really hard to see that happening and to see the employees you had worked with and who were making gains walk out the door and say, "I am going to find somewhere else to work."
>
> I am saddened in that the grant hit the company at the wrong time. The company did not realize how much this program was needed. We have a number who cannot read processes. We have a number who have no concept what to write to the product operator. Now as there is a move to ISO certification, there appears to be a willingness for upper management to listen when we say that we have a major comprehension problem that is costing the company and is having a negative influence on the product.
>
> The right-sizing was a key challenge. No one would buy into the program anymore. They were not encouraging people to participate in the program. It became clear that they did not support having it on work hours. We conducted a survey to find out what they thought the program's goals were and what they thought the program had accomplished, how did they think we were operating, what did they want the program to accomplish? We went into that meeting prepared for the worst. We went in saying, "We have this assessment. This is the level of the need and this is how it affects production of the product." They said, "We can't do this on work time, but we have to do this." They agreed to having it on work time if we offered very specific training such as the TCF or eyepiece training. They agreed to let ESL continue if it was on the person's own time. That was a very difficult period. I think the transition was successful because we were able to find out what the needs were and we were able to package what we knew we had to do with what the company needed us to do. That was when the program became more broad. There was also a demand that this not be an ESL program, and, although it was not, it was perceived that way.

The Partnership. Another factor that made operation of the program difficult was the development of a partnership between Schneider and the Adult Academic Program of the Robbinsdale Area Schools. One of the frustrations on the part of both organizations was the difficulty in meshing Schneider's needs and obligations with Robbinsdale's needs and obligations. In a number of interviews the evaluator was told about the difficulty of hiring additional staff, the assignment of staff, the assignment of staff to supervisory roles, the payment and benefit packages, and so forth. The specific quotes will not be presented here because the evaluator does not want to open old wounds; however, one person's comments seem particularly insightful:

> There was pain in the partnership between Robbinsdale's academic program and Schneider as a business. I think we would be remiss if we did not acknowledge that. There were some real blinders on in the academic understanding of the grant and its implementation and the businesses understanding and its implementation. Both ends of the partnership had their own paradigms and each are equally important to acknowledge. I do not believe there was enough flexibility and cooperation with regard to the interpretation of how to work together. There were some real problems in terms of scope and definition of the project . . . In the future we have to have some very clear agreements in terms of how we will function together in partnership.

Other Factors. Gaining access to people's time within the company, the changes in upper management, not being able to offer classes during the workday, sustaining people's commitment and focus on each training were other factors that limited the project's success.

> Time is always a limitation. People who work at Schneider have jobs beyond this program . . . gaining access to their time was a limitation.
>
> Once a need was identified it appeared that there was difficulty keeping everyone who needed to be involved, involved, and keeping the program moving forward.
>
> We couldn't have foreseen the turnover in the key management people. We also needed to have better involvement from the senior management level. However, because we worked to generate that involvement after the changes in that level we did eventually gain very strong administrative support. As a result the training became all inclusive instead of limited to a small group of people and began to really reach into the needs of the entire organization. There came an acknowledgment that everyone in the organization had skills deficiencies.
>
> I found the frustrating part was to get everybody focused on the program. TCF training had been a passion for me for two and a half years. I found there were times when I wanted to throw my hands up and say, "Forget it!"

FACTORS THAT PROMOTED SUCCESS

Cooperation of the Skills Enhancement Program staff, the strategy to involve many within the company in goal setting, and the quality teaching staff were all identified as factors that promoted success of the program.

> The factors that promoted success were the cooperation of the team players of the Schneider and Robbinsdale partnership, the dedication of the staff, the knowledge base of the staff. There were experts on both sides of the partnership which made for a fine product.
>
> Everyone was involved in setting the goal. Also the goal was not established from the outside; it was determined by the partnership. By developing the goal together it gave everyone ownership.
>
> Memo to Program Director: "I would like to take this opportunity to thank you for allowing the Steering Committee to use Lucinda McCormack and Mary Gallagher as a resource for our production break-out sessions. The time that they spent in preparation and their ideas for communication made the sessions both effective and enjoyable. I was extremely impressed by their dedication, knowledge of the audience and overall teaching abilities. I hope that we can continue to utilize their resources in the future."
>
> The fact that the teachers were out there with the supervisors, on the work floor, promoted success. After a while, they started dropping in to the office and after some chitchat we could say, "Oh, by the way, this is something I have been working on. Would you mind taking a look at it?" So they felt like they were a part of this program . . . [which] made all the difference in the world.
>
> A factor that promoted success was that the supervisors actually became involved in developing the training. I think Pam has to be commended for the fact that she brought them in the way she did. She got them to buy into and to work on the program.

CONTINUING ISSUES

Although many aspects of this program were a success, employees remain who lack basic skills and who need a commitment by the organization to address those needs. In a recent analysis, it was estimated that 79 employees need reading training and 90 employees need math training. At the time of this report, discussions were being held to examine the costs and benefits of setting up a computer-assisted skills lab. If this lab is developed, there will be some assurance that the work in literacy begun through this grant will continue into the future. There is concern by some of the Skills Enhancement Program staff that the fact a decision has not been made may indicate a lack of willingness on the part of Schneider to move forward in this area.

> We have operators coming into our offices and asking when the math classes are starting. That is something we **really** need.
>
> I feel as though perhaps the ESL population is being slighted. [Because of the TCF training] they have a list of people who need literacy training itself or literacy training in their first language. Where are they going to go from here? The grant's going to end in the future. Will they use that list to promote literacy or was this just a short-term training program that was funded through this grant. I am not real comfortable with that viewpoint. I am not sure about the implications of this . . . I feel that the ESL population here has certain needs and I hope that they are met.
>
> Schneider needs to come to understand what the true training needs are . . . Instead of being voluntary, training needs to be such that we identify who needs help, when, and then give them that help. I am concerned that there is not a true understanding, at the training and management level, of these training needs.
>
> We have found that this company really has to commit to training. We found in the ISO training that there are some hard feelings about being left behind. We try not to discriminate, but there is a silent discrimination. If one does not have the skills or does not receive the training necessary, they are left behind.
>
> I can't give you as definitive answers regarding where it goes from here as I would like. That is not because I am trying to be evasive but because I still don't have the answers I need. There is still a need for this type of work, so I feel that there should be dollars allocated for what we are doing. Upper management . . . is viewing this as an imperative for 1993. The good news is that the company is seeing the Skills Enhancement Program as having tremendous impact. Where does it go from here? One of the [directions] is the skills enhancement lab . . . We hope to get a green light from the company to go ahead with that. In addition . . . we need to test people and make accurate decisions regarding where we place people. That will have to be a critical piece in the future. I would also like to see the materials developed be built into additional tutorials which may have to be instructor led. We also need to expand this issue and make sure that it is not sold as a non-native speaking program but that it is sold on a company wide basis.

At the time of this report, Schneider and Robbinsdale were in the process of identifying future needs and beginning to examine future direction. Some tensions experienced during the formation and operation of the partnership continue. As the evaluator of this project, I am concerned that these tensions may build and make it unlikely that the partnership will continue in the future. I would recommend that Pam (Streiff) Altrowitz and Wendy Malinsky, as representatives of Schneider (USA), and Mary Negri, as a representative of the Adult Academic Program of the Robbinsdale Area Schools, come together to review this evaluation report, identify where the partnership benefits each organization, and problem-solve around remaining issues.

CONCLUSIONS

The Skills Enhancement Program was for the most part implemented as proposed and had a dramatic impact on the employees who participated, Schneider (USA), and to a more limited degree, the Robbinsdale staff.

To their credit, the Skills Enhancement Program staff was able to adapt to the company "right-sizing." That event alone had the potential to disband the program. The timing of this grant, coming during such dramatic change at the company, made it imperative that the Skills Enhancement Program be flexible and sensitive to the company's changing needs.

It is also to the staff's credit that they were willing to work through some difficult partnership issues. The tensions experienced are not unique to this project; they will be experienced by many as educational organizations and corporations work together to address educational and literacy issues. Having the partnership raise issues about the definition of literacy and about working together as partners is healthy for the field of workplace literacy. Change is seldom without tension; indeed, one way to track change is to look for places where tensions have emerged. Some tensions arose because the Skills Enhancement Program touched fundamental issues about workplace literacy.